

PCWorld

DECEMBER 2014

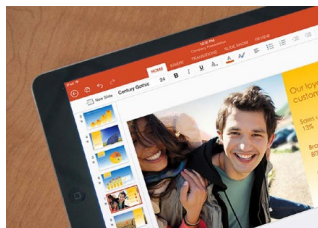
MOBILE OFFICE IS FREE

What you get, and
what you don't



PLUS: Three free tools that reveal your PC's deepest details

» DEPARTMENTS



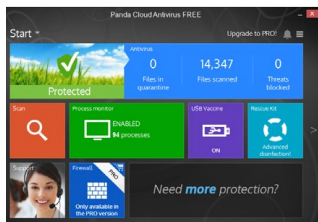
7 News



31 Reviews & Ratings



77 Here's How



23 Consumer Watch

» FEATURES



58 Phablet vs. mini-tablets



70 Routers with strong QoS make better home networks



95 Tech Spotlight

» COLUMNS

90 Hassle-Free PC

93 Answer Line



Other ways to
read PCWorld.

PCWorld



Follow
Jon's tweets
at [go.pcworld.
com/JPtweets](http://go.pcworld.com/JPtweets)

CCO & SVP, U.S. MEDIA AT IDG John Gallant
EDITOR IN CHIEF, CONSUMER BRANDS Jon Phillips
DESIGN DIRECTOR Rob Schultz

EDITORIAL

EXECUTIVE EDITORS Melissa Riofrio, Gordon Mah Ung
SENIOR EDITORS Michael Brown, Brad Chacos, Mark Hachman
ASSISTANT MANAGING EDITOR Sally Zahner
ASSOCIATE EDITOR Caitlin McGarry
STAFF WRITER Florence Ion

DESIGN

DESIGNER Liz Marken Fiorentino

ADVERTISING SALES

SALES MANAGER Duane Hampson (415/978-3133)

PRODUCTION

DIRECTOR, PRODUCTION Nancy Jonathans
SENIOR PRODUCTION MANAGER Tamara Gargus

FOUNDERS

FOUNDER David Bunnell
FOUNDING EDITOR Andrew Fluegelman

INTERNATIONAL DATA GROUP, INC.

CHAIRMAN OF THE BOARD Walter Boyd
CEO, IDG COMMUNICATIONS Michael Friedenberg

REPRINTS AND PERMISSIONS

You must have permission before reproducing any material from *PCWorld*. Send email requests to permissions@pcworld.com; please include a phone number in your message.

BACK ISSUES

PCWorld back issues can be downloaded in digital format from www.zinio.com at \$6.99 per issue. Back issues in print format (subject to availability) cost \$8 per issue for U.S. delivery, and \$12 for international delivery; prepayment in U.S. currency to *PCWorld* is required. Send a check or money order to *PCWorld* Back Issues, P.O. Box 37881, Boone, IA 50037-0781.

SUBSCRIPTION SERVICES

Access your subscription account online—24 hours a day, 7 days a week. You can use online subscription services to view your account status, change your address, pay your bill, renew your subscription, get the answers to frequently asked questions, and more.

WEB pcworld.com/support **EMAIL** maghelp@pcworld.com

(Send your full name and the address at which you subscribe; do not send attachments.)

PHONE In the U.S. and Canada: 800/234-3498

QUESTIONS AND COLUMNS

Send material electronically to the appropriate online address listed below, or mail it to *PCWorld*. We reserve the right to edit letters.

ANSWER LINE answer@pcworld.com

MAILING LISTS

Occasionally we make our magazine subscribers' names available to other firms whose products may interest you. To have your name excluded from these mailings, send a request and your email address to PCWorld Subscriber Services at maghelp@pcworld.com.

CONTACT

PHONE 415/243-0500; **FAX** 415/442-1891

MAIL Editorial: 501 Second Street #600, San Francisco, CA 94107

STAFF ADDRESS To contact any *PCWorld* staff member, simply format the address as follows: *firstinitiallastname@idgcsmb.com*

PUBLICATION INFORMATION

Volume 32, number 12 *PCWorld*™ (ISSN 0737-8939) is published monthly at \$24.95 for one year (12 issues) by IDG Consumer & SMB, Inc. Copyright 2014, IDG Consumer & SMB, Inc. All rights reserved. *PC World* and Consumer Watch are registered trademarks of International Data Group, Inc., and used under license by IDG Consumer & SMB, Inc. Published in the United States.

LIFE FLIES BY IN AN INSTANT, LET'S **PROTECT** THE MEN WE LOVE.

One in six men will develop prostate cancer in their lifetimes. Every 16 minutes, a man dies of prostate cancer in the U.S. But prostate cancer is often treatable. Encourage the men in your life to speak to their health care providers about prostate cancer screening. Visit PCF.ORG to create a plan for better prostate health.

Quincy Jones and daughter Rashida Jones,
Stand Up To Cancer Ambassadors



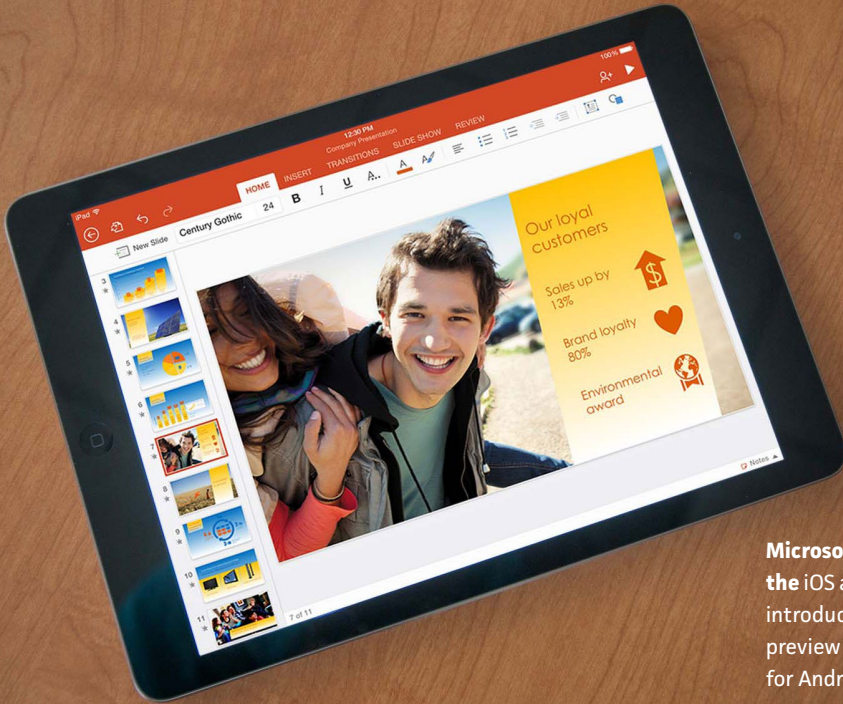
TO LEARN MORE GO TO SU2C.ORG.



NEWS

CONTENTS

- | | | | |
|----|----------------------------------------------------------------------------------|----|--------------------------------------------------------------|
| 8 | Microsoft offers free Office for mobile devices: What you get and what you don't | 15 | HP's Omen laptop: Hot hardware that runs cool |
| 12 | Hands-on with Dell's Venue 11 Pro 7000 Windows tablet | 19 | Samsung's Wi-Fi tech five times faster than today's wireless |



Microsoft improved the iOS app and introduced a preview version for Android.

Microsoft offers free Office for mobile devices

The free version of Office: What you get and what you don't.

BY JARED NEWMAN

WITH THE NEWS that Microsoft is making all of its mobile Office apps free—the iPad (go.pcworld.com/freeofficeipad) and upcoming Android tablet (go.pcworld.com/freeofficeandroid) versions—you knew there had to be some caveats.

Of course, Microsoft still wants users to consider an Office 365

subscription, so in addition to offering unlimited cloud storage (go.pcworld.com/unlimited) for subscribers, it's also putting some of Office's more advanced features behind the paywall. We reached out to Microsoft and got the full rundown on what will be free, and what will require a subscription.

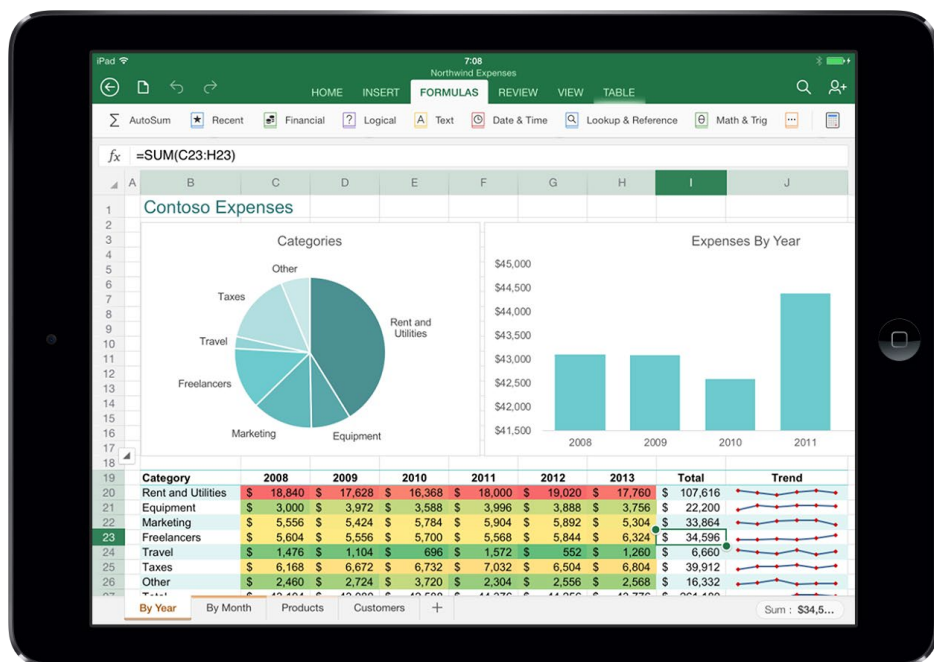
Here's the high-level overview: Phone and tablet users will be able to view, create and edit documents for free, and they'll be able to sync those documents with Dropbox or OneDrive cloud storage. Certain advanced editing features, such as the ability to accept or reject Track Changes in Word, will require an Office 365 subscription. And for commercial use rights, you'll need Office 365 for Business.

Now for the nitty-gritty details:

Microsoft Word

Microsoft's document editor has the longest list of paid-only

The free version
supports basic
editing features.



features, but the free version still supports basic editing features such as creating text, adding styles such as bold and italics, changing the font and choosing from a list of colors. Here's what specifically requires a subscription:

- Only paid users will be able to change the orientation of a document between portrait and landscape mode. Free users can open landscape documents, but can't change them, and will create all new documents in portrait.
- Paid users can format documents into columns. Free users can open existing documents with columns and edit the text, but can't modify or undo the columns themselves.
- Only paid users can create section breaks such as Next Page, Continuous, Odd, and Even Pages. Free users can still view section breaks from existing documents and create new page breaks.
- The ability to accept or reject tracked changes is limited to paid users. With the free version, Track Changes will be turned on by default in any marked-up document, and can't be turned off, and any changes users make will be tracked. Free users also can't turn on Track Changes in a new document.
- For text editing, any drop-down menu options for things like font size, text style and color are free, but custom changes such as specific colors are behind the paywall, as are Text Styles and Word Art.
- For charts, changing the display options on things like data labels and the legend will require a subscription.
- For tables, only paid users can change the color or shade of any cell, row, or column.
- Only paid users can apply reflections and shadows to images, though these won't be removed from existing documents when opened in the free version.

For tables, only paid users can change the color or shade of any cell, row, or column.

Microsoft Excel


The free version of Microsoft's spreadsheet editor comes with the same restrictions on text, charts, tables and pictures that apply to Word.

In addition, there's one restriction related to Pivot Tables: While free users can pivot the data and refresh the spreadsheet for existing Pivot Tables, only paid users can change the layout or style of the Pivot Table. It's not currently possible to create a Pivot Table in the mobile version of Office, with or without a subscription.

Microsoft PowerPoint

Again, Microsoft's presentation editor has the same formatting restrictions on text, charts, tables, and pictures that also apply to Word and Excel.

However, advanced presentation tools require a paid subscription. That includes the Presenter View (go.pcworld.com/presenter) that lets users view notes and upcoming slides on a separate computer. (Users can present a slideshow without these tools for free.) Inking and highlighting are also a paid feature.

In Word, Excel and PowerPoint, there are also restrictions on loading documents from OneDrive for Business, Dropbox for Business, or Sharepoint. Saving and editing these documents will require an Office 365 subscription, while free users will be limited to read-only mode. These restrictions don't apply to files stored in the consumer versions of OneDrive and Dropbox. 



Hands-on with Dell's Venue 11 Pro 7000 Windows tablet

BY MICHAEL BROWN

DELL RECENTLY launched a revamped version of its 11-inch Windows 8 tablet: the Venue 11 Pro 7000 series, powered by Intel's new Core M processor (formerly code-named Broadwell). I laid hands on one during a press briefing, along with several accessories that can turn this tablet into a productivity workhorse in the office and on the road.

The Venue 11 Pro 7000 Series (go.pcworld.com/venue117000)—prices start at \$700—is available with either an Intel Core-M 5Y10a

processor or the more enterprise-oriented Intel M-5Y70 CPU.

Both chips are dual-core models with hyper-threading support and integrated Intel HD Graphics 5300 processors, but the M-5Y70 runs faster (up to 2.6GHz core/850MHz graphics, versus 2.0GHz core/800MHz graphics for the M-5Y10a), *and* it supports Intel's vPro technology. vPro is a collection of CPU-level hardware features that add security and IT-management capabilities.

All models in the Venue 11 Pro 7000 series are outfitted with 10.8-inch IPS displays with 1920x1080 resolution and 10-point capacitive touch. The demo unit I played with during the briefing felt much snappier than the Atom-powered—but cheaper—model (go.pcworld.com/venue11) we reviewed last March. I didn't have an opportunity to run benchmarks, but I imagine it won't be as fast as the Core i5 (go.pcworld.com/pro7139) model we tested in August. It also doesn't have that model's fingerprint scanner and smart card reader.

An optional dock
can transform the
Dell Venue 11 Pro
into an all-in-one
desktop PC.





Tablet or clamshell laptop? You get both when you dock Dell's Venue 11 Pro to its optional keyboard.


Venue 11 Pro 7000 series tablets can be ordered with either Windows 8.1 or Windows 8.1 Pro; with 4GB or 8GB of DDR3/1600 memory; and solid-state storage of 64GB, 128GB, or 256GB. You can augment that storage by plugging a drive into the tablet's full-size USB 3.0 port. The tablets are equipped with 2-megapixel HD webcams in front, and 8MP cameras in back.

A 2x2 Intel Dual Band Wireless-AC 7265 chip provides 802.11ac Wi-Fi connectivity, and there's support for Bluetooth 4.0 and NFC (near-field communication), too. LTE mobile broadband is available as an added-cost option. The rest of the tablet's I/O ports include a MicroSD card reader, a Micro HDMI output, and a combo mic/headphone jack. The 38Wh lithium-ion battery is charged via a Micro-USB port.

Docking options

Dell offers three dock options for the Venue 11 Pro series, including a new version of Dell's Tablet Dock that converts the tablet into an all-in-one PC. It includes a gigabit ethernet adapter and the ability to drive two displays. The tablet is also compatible with Dell's older Tablet Dock, which is limited to 10/100 ethernet.

Dell's mobile keyboard transforms the tablet into a clamshell laptop and includes an internal battery that will double the tablet's useful life when you're away from a AC power. If you don't want to add that much to your carry weight—or spend as much money—Dell's Tablet keyboard is thinner and lighter, and it retains the ability to prop up the tablet.

The Venue 11 Pro 7000 series is available for purchase now. 



HP's Omen laptop: Hot hardware that runs cool

BY MELISSA RIOFRIO

HP's new Omen gaming laptops include Intel Core i7 CPUs, Nvidia GTX 860M GPUs.

WITH THE NEW OMEN gaming laptops it announced recently, HP is throwing down its gauntlet in the brutally competitive PC gaming market. Again, that is—after buying and eventually laying to rest the Voodoo gaming PC brand a few years ago. (Though the Omen name does refer to Voodoo's erstwhile high-end tower.)

HP will have to lure users from established brands, including Alienware, MSI, and Razer. But it's not fooling around: The Omen bristles with

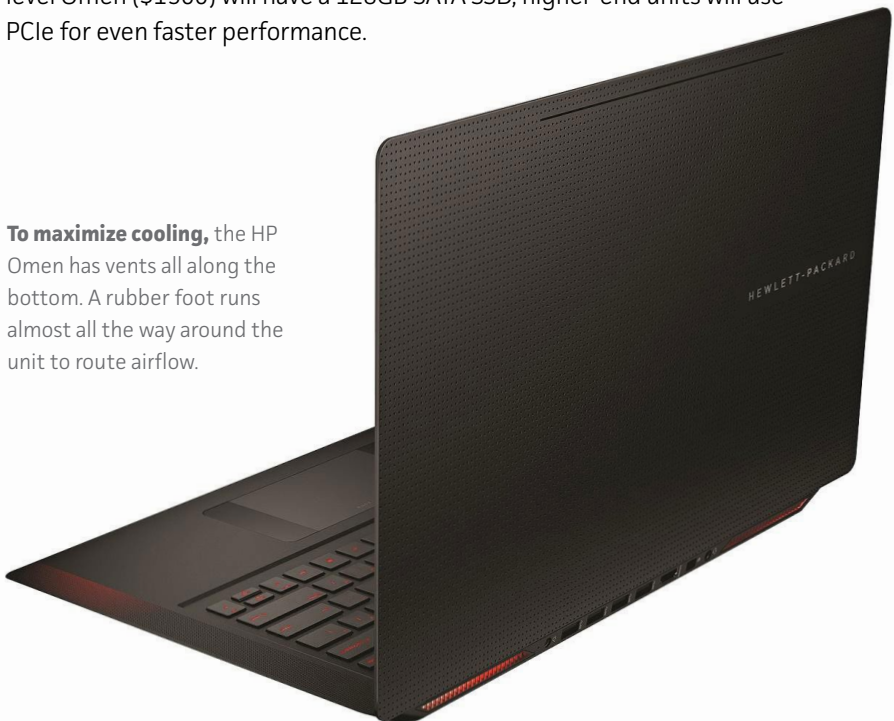
game-ready features that the company hopes will speak for themselves.

And what do those features say? Intel Core i7 4710HQ CPU, running at 2.5GHz and boostable to 3.5GHz. Nvidia GeForce GTX 860M GPU. SSD all the way, including PCIe in higher-end SKUs. There's a roomy, 15.6-inch, 1080p touchscreen. HP says the Omen weighs 4.68 pounds and can last up to four hours and 45 minutes on its 4-cell, 58WHr lithium ion battery.

"We know that 60 percent of the people who use PCs game regularly," said Mike Nash of HP in a briefing with PCWorld. Nash described HP's challenges in developing the Omen for this very picky audience. "We've got to get the performance right, specifically frame rates. We've got to get the portability right. And we have to create a unique gaming experience."

Going with SSD obviously promotes fast boot times. While the entry-level Omen (\$1500) will have a 128GB SATA SSD, higher-end units will use PCIe for even faster performance.

To maximize cooling, the HP Omen has vents all along the bottom. A rubber foot runs almost all the way around the unit to route airflow.



Nash said the 15.6-inch display's rather pedestrian 1080p resolution was a deliberate decision. "Gamers care about frame rates. They prefer 30-plus fps at 1080p," Nash explained. In other words: If you really care about gaming performance, you'll take 30-plus fps on a "low" resolution over slower frame rates on a trendy 4K display. Sticking to 1080p also keeps heat and battery life under control.

Nash readily concedes that the Omen's specs closely resemble those of other high-end competition. The Omen's advantage, per Nash, is its cooling system. "Getting [the CPU and GPU] to run at their full potential is hard," said Nash. "We got our thermals right."

The anodized aluminum chassis includes a fully vented bottom panel. Two rubber feet run almost all the way around the bottom, save for openings at the front and back. Dual intake fans pull in cool air from the front, and hot air exhausts out the back of the unit, underneath the hinge. The Omen's display is actually raised a little bit to keep it farther away from the hot exhaust.

But there's one kind of heat the Omen wishes to embrace. The chrome-plated hinge of the Omen is tinted blue at both ends, just as a car's exhaust tips would be after intense driving. HP hopes you'll think "speed" as you see that effect.

The gaming-oriented design continues with six programmable buttons running down the left side of the keyboard. The full, island-style keyboard itself has the usual colored backlighting, but more importantly, it has a 1.5mm travel that should give gamers the responsiveness and feedback they crave. A wide touchpad sits in front of the keyboard.

The HP Omen has six programmable keys running along the left side of the keyboard. You can also see the blue-tinted hinge, inspired by a car's heat-discolored chrome exhaust tips.

Gamers can tweak the computer's gaming settings and analyze performance through the Omen Central Ops collection of utilities. You can use HP Omen Control to customize key assignments, as well as the

Gamers can tweak the computer's settings through the Central Ops collection of utilities.



The HP Omen has six programmable keys running along the left side of the keyboard.

lighting for the keyboard and the Beats Audio speakers that run up and down the full depth of either side of the keyboard panel. There's even a utility to program the optional Omen Gaming Mouse x9000 (\$60), which is expected to be available soon.

Another thoughtful touch: The ports run along the back of the unit to minimize clutter. They include AC, four SuperSpeed USB 3.0, HDMI, mini-DisplayPort, and an audio jack. An HP USB Ethernet adapter is bundled with the Omen, and 802.11ac Wi-Fi and Bluetooth are optional.

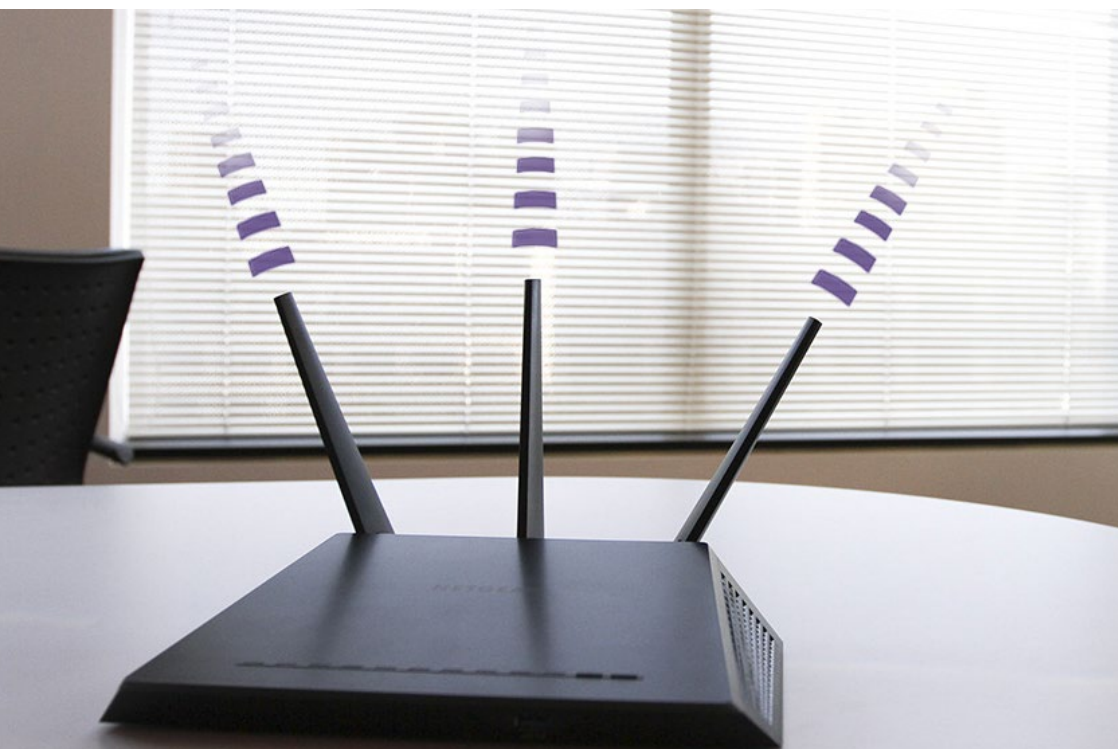
I couldn't run full benchmarks during our briefing, but I did get to play *Borderlands: The Pre Sequel*, a fast-paced game. As I ran, reloaded, and fired, I saw no lag or jitter. If anything, I was the lag—I died quickly.

The Omen is available for preorder, with units expected to ship in a few weeks, according to HP. The entry-level system will cost \$1500 for the Intel Core i7 CPU with 8GB of DDR3 RAM, the Nvidia GTX 860M GPU with 2GB of DDR5 RAM, and a 128GB mSATA SSD. A \$1600 model will get a 256GB SSD with PCIe, and a \$1700 model will have 4GB of DDR5 memory for the GPU. A top-of-the-line model, whose price wasn't quite set, will rock 16GB of RAM, a 512GB SSD, and 4GB of DDR5 RAM for the Nvidia GPU. 🔌

Samsung's Wi-Fi tech five times faster than today's wireless

BY BRAD CHACOS

THOSE FACE-MELTINGLY FAST new 802.11ac routers might rule the wireless networking world for long. Samsung has announced the development of new 802.11ad Wi-Fi technology that can turbocharge network speeds fivefold, from today's 866-megabits-per-second (mbps) per-device maximum to a blistering 4.6 gbps. At that rate, Samsung says, a 1GB movie file can transfer from one device to another in under 3 seconds.



The secret sauce: Ditching the crowded 2.4GHz and 5GHz wireless channels used by today's routers and jumping to the 60GHz frequency band.

Even though you might not have heard of them, neither the futuristic 802.11ad standard (go.pcworld.com/80211) nor the idea of using the 60GHz frequency for ultrafast Wi-Fi (go.pcworld.com/60ultrafast) are new. But prior implementations have run into a brick wall, both literally and figuratively: 60GHz signals can't easily penetrate walls. That's obviously a problem for real-world usage. Most of the 60GHz-capable "WiGig" (go.pcworld.com/wigig60) accessories you can find today are designed to operate at very short ranges as a result.

But Kim Chang Yong, head of Samsung's DMC R&D Center, says the company has "successfully overcome the barriers to the commercialization of 60GHz millimeter-wave band Wi-Fi technology."

Samsung's press release says it overcame those physical and metaphorical barriers with "high-performance modem technologies and by developing wide-coverage beam-forming antenna." The WirelessHD and WiGig standards groups have also been trying to improve 60GHz signal performance using beam-forming (go.pcworld.com/beamforming), a Wi-Fi technology that detects where client devices (like PCs and tablets) are physically located and then sends a focused signal directly at those devices, rather than mindlessly broadcasting a Wi-Fi signal in all directions as most routers do. (Beam-forming is already becoming a common feature in high-end 802.11ac routers.)

Don't start saving your pennies for this particular bit of next-gen networking kit just quite yet.

For the future, not today

Don't start saving your pennies for this particular bit of next-gen networking kit just yet, however. While Samsung's press release states that "commercialization is expected as early as next year," that's only talking about industry-wide usage of the 60GHz frequency itself—not

necessarily the release of products packing the company's new technology. A Samsung spokesperson provided the following statement to John Ribeiro of the IDG News Service: "As 60GHz is an unlicensed band spectrum globally, along with 2.4GHz and 5GHz spectrum, industry-level of commercialization is expected as early as next year, but there's nothing we could confirm at this point on when Samsung products supporting 60GHz Wi-Fi will be available in the market."

It seems 802.11ac routers will have to do for now. Fortunately, there are a slew of compelling options available.

The story behind the story: The idea of making wireless networks as fast or faster than wired connections holds obvious appeal—the less time you spend waiting for files to transfer, the more stuff you can get done. But while Wi-Fi improvements like Samsung's new technology should (eventually) turbocharge such tasks as sharing files, streaming locally stored movies, or playing games (go.pcworld.com/stream) across your home network, don't forget that a fast router won't magically make your actual Internet connection any faster. Activities like browsing the Web or zoning out on the couch and watching Netflix are usually limited by your Internet speed, not your router. 🔌

Samsung's new technology will eventually turbocharge gameplay across your home network.





DEEP SILENCE 6

THE ULTIMATE GAMING PC CHASSIS

When it comes to quiet cases, the Deep Silence 6 is often imitated, but never duplicated. If massive data storage, cooling system and low noise levels are your utmost priority, the Deep Silence won't disappoint.



ACTIVE AIR CHIMNEY (2ND GEN)

Opens to purge heat or closes to maintain stealthy look. Turns on/off hardwired fans underneath



FRONT SWIVELING BRACKETS

Quick access to fans and dust filters



SPECIAL COMBINATION OF BITMEN AND FOAM

Specially designed, noise reducing insulation materials



DECOUPLED PS AND HDD

Absorbs vibrations

Make smart purchases,
stay safe online.

CONSUMER WATCH



Facebook privacy questions resurface

Ad server makes use of Facebook user data across the wider Web.

BY ZACH MINERS

A

N EXPANSION OF how Facebook's user data is employed for advertising purposes is prompting questions over privacy.

In early October the firm began rolling out a rebuilt version of Atlas, an advertising server Facebook acquired last year from Microsoft. The technology lets partnered advertisers leverage Facebook members' data to deliver targeted ads (go.pcworld.com/tracked) to them on outside sites, particularly on mobile devices.

With the rollout, questions have sprung up over the privacy implications for users, and whether it constitutes a new level of intrusion on people's data.

Some experts answered with a resounding "yes." "This expands the surveillance economy into ever more important and intimate aspects

of a person's life," particularly when it comes to cross-device targeting on mobile, said Neil Richards, a professor of law at Washington University in St. Louis, who studies digital privacy.

The concept of ads following you around the Internet is not new. People's browsing activity already factors into the ads they see on Facebook. But at the same time, Facebook data is being put to greater use for the purpose of targeting ads on sites far beyond Facebook. That could make some users uncomfortable.

"It's an expansion of Facebook data to the rest of the Web," said Adi Kamdar, an activist at the Electronic Frontier Foundation specializing in consumer privacy issues.

The knowledge that more highly targeted ads will be coming courtesy of Facebook, beyond the social networking site, may spark some to re-evaluate their relationship with the site.

"It pisses me off and makes me unsettled," said one Facebook member, after learning of Atlas. But she stopped short of saying she would quit the site. "I just hate how Facebook has become the main everything, the main communicator of what's going on with my friends," she said.

Facebook fallout

Concerns like those are part of the reason why ad-less alternative sites like Ello (go.pcworld.com/ello) have sprung up.

Atlas also lets businesses connect people's real-world behavior with their activities online. A clothing retailer could use the email addresses gathered from shoppers in a store to deliver an ad to those people who are also Facebook users and on a site or mobile app that serves ads by Atlas. The advertiser can narrow it down further to reach, say, female Facebook users between the ages of 30 and 40 living in Atlanta.

The technology lets advertisers target ads to people across desktop and mobile, and helps Facebook compete against Google by leveraging Facebook's user data across the wider Web.

"Because we may serve advertisements on many different

websites, we are able to compile information over time about where you, or others who are using your device(s), saw and/or clicked on the advertisements we display,” Atlas says in its privacy policy (go.pcworld.com/policy.) Omnicom, a global advertising agency, is the first agency signed up for Atlas, as are advertisers on Instagram.

Facebook says the program works anonymously, so that neither Facebook nor the advertisers know the individual people who are being matched. (See “Facebook still plans to study you, but promises to ‘learn and improve’” [go.pcworld.com/plans].)

But perfectly targeted ads provided by Facebook’s technology eventually may scare more users. The retailer Target generated controversy in 2012 after it was revealed (go.pcworld.com/revealed) to have used purchasing data and demographic information to identify pregnant women and send them promotional materials geared toward their (unborn) babies.

Or some Facebook users might love seeing just the right ad, on just the right device.


Some privacy experts, when asked to comment on Atlas, said they didn’t know enough yet to fully gauge the extent to which it raised new privacy red flags. That didn’t stop a German consumer group from protesting (go.pcworld.com/hackles) it immediately.

For others, their biggest questions revolved around what choices users have, if any, to opt out. “We’ve heard a lot about the benefits to advertisers, but not as much about controls for users,” said Chris Babel, CEO at TRUSTe, a San Francisco-based company that analyzes and provides services around data privacy.

Unfortunately, opting out of tracking through Atlas, or most other systems, is not easy. You can opt out of ad targeting, which would include Atlas, by visiting the Digital Advertising Alliance opt out page (go.pcworld.com/remove). However, that doesn’t change what information is collected.

“We’ve heard a lot about the benefits to advertisers, but not as much about controls for users.”

Facebook this past June started offering more controls to users to help them see why certain ads are shown to them, but the controls don't stop tracking altogether.

Downloadable ad blockers may be the only way to eliminate tracking through Atlas or other systems. Those include EFF's Privacy Badger (eff.org/privacybadger), Disconnect (disconnect.me), AdBlock Plus (adblockplus.org) and Ghostery (ghostery.com). 

Start ▾

Upg

**CONSUMER
WATCH**

Antivirus

Protected

0 Files in quarantine

14,347 Files scanned

0 Threats blocked

Scan

Process monitor

ENABLED
94 processes

USB Vaccine

ON

Rescue Kit

Advanced disinfection!

Support

Firewall

PRO

Only available in the PRO version

Need *more* protection?

PANDA SECURITY

Edit

f t RSS

Free Panda software tops AV-Test's rankings

BY MARK HACHMAN

ANTIVIRUS SUITES ARE only as good as their latest tests. And in AV-test.org's roundup for July and August, the usual suspects—BitDefender, Kaspersky, McAfee, and Symantec—came out on top.

The same holds true for the free options. If you're a cheapskate, you can download Panda Security's free cloud antivirus (cloudantivirus.com) and have a good chance that it will catch everything that the shadowy corners of the Web can throw at it—as it did in AV-test's own proving ground.

But if you think that Microsoft's own Windows Defender (or Microsoft Security Essentials in Windows 7) antimalware solution will do the job, you're almost entirely wrong. Microsoft caught less than 80 percent of both the known malware that AV-test.org threw at it, as well as the unknown or so-called zero-day malware that it was tested against. It's like saying your roof will catch 80 percent of the rain—eventually, there's going to be a leak.

Why this matters

It's a good idea to re-evaluate your antivirus solution regularly. Is it up-to-date? Getting the job done? If there are any lessons at all, it's that the big names in the antivirus industry have earned their reputations. Check to see if yours is among them.

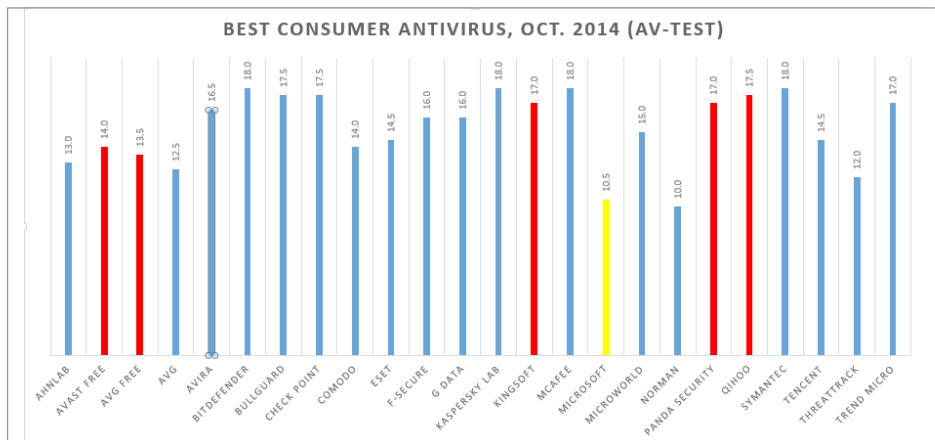
There are two major test houses that periodically evaluate major antivirus suites and internet security services: AV-test and AV-comparatives.org. AV-comparatives.org, which published its own August rankings, also treats Microsoft as the baseline, claiming that it caught only 85.5 percent of the antimalware samples it was tested against.

The victor? Panda again, which caught every malware sample that AV-comparatives tested against. (Note the high number of false positives, however, meaning that safe files were incorrectly flagged as malware.) The only other suite to do the same was Avira, although it's not clear whether AV-comparatives used the paid Internet Security suite, as AV-test.org did, or the free, standalone antivirus version.

AV-test.org also ranked paid antivirus solutions for businesses. Each and every one—BitDefender, F-Secure, and Symantec—caught 100 percent of the tested malware. Microsoft, again, came in dead last, managing only to catch between 74 and 79 percent.

There's absolutely no guarantee that any of the antivirus products that have historically performed well will continue to do so—or will snag the next piece of malware your PC encounters. However, one trend is positive: In a recent, prolonged test by AV-test.org, the traditional antivirus powerhouses continued to do well.

Here are a few points to consider when designing an antimalware



AV-test.org's rankings of the various antimalware suites for October. We've highlighted the free options in red, and Microsoft's built in Windows Defender in yellow.

strategy for your PC:

- Microsoft alone doesn't cut it. Whether you consider a paid or free option, you're going to need something else.

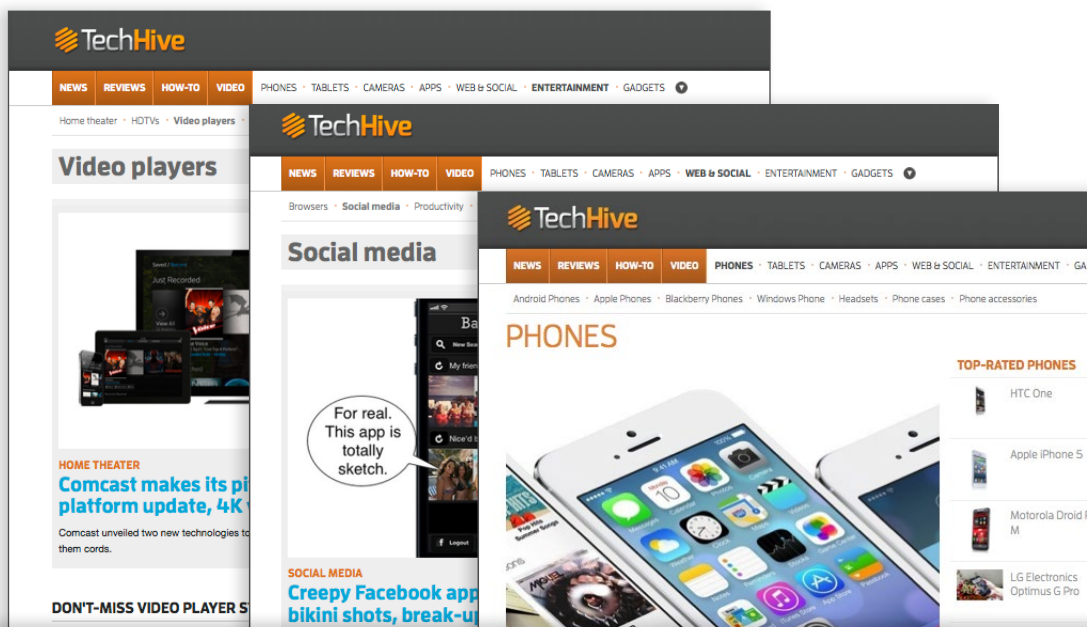
- Historically, paid antimalware solutions like BitDefender, McAfee and Symantec continue to perform well, so the effectiveness of their antivirus protection should be seen as about equal. Other factors may help you decide among these suites, such as support for mobile devices or special security features like McAfee's LiveSafe (go.pcworld.com/livesafe) encrypted cloud storage.

- You can get by with free antivirus solutions (go.pcworld.com/free) from Panda and others, but their quality could vary over time.

- Antimalware, while still useful, still can't block a direct attack on your machine. (A firewall can.) Nor can it prevent you from clicking on a poisoned link sent you by your "Uncle Steve"—or someone posing as him. Consider an Internet security suite for this very reason. Here's our evaluation of the 2014 security suites (go.pcworld.com/security2014.) Otherwise, make sure you have some additional protection besides a simple antivirus solution. 🔌



News, tips, and reviews covering phones, tablets, apps, and all the other tech in your life.



TechHive helps you find your tech sweet spot.

We steer you to products you'll love and show you how to get the most out of them.

www.techhive.com | Follow us



REVIEWS & RATINGS

CONTENTS

- | | | | |
|----|-----------------------------------------------------|----|--------------------------------------------------|
| 32 | D-Link's Connected Home Platform falls short | 50 | Corsair Voyager Air 2 adds cloud-storage syncing |
| 45 | Dell XPS 18: A nearly perfect tablet-desktop hybrid | 54 | Big, bargain Nixeus VUE27D cuts too many corners |

TESTED IN PCWORLD LABS
In this section, hardware & software
go through rigorous testing.

REVIEWS & RATINGS



D-Link's Connected Home Platform falls short

This is no way to build a smart home. **BY MICHAEL BROWN**

DLINK IS TARGETING THE DIY crowd with its cloud-based connected-home platform, which includes very basic lighting control, a motion detector, a limited number of its IP cameras, and mobile apps for programming and control. But this system has a long way to go before I can

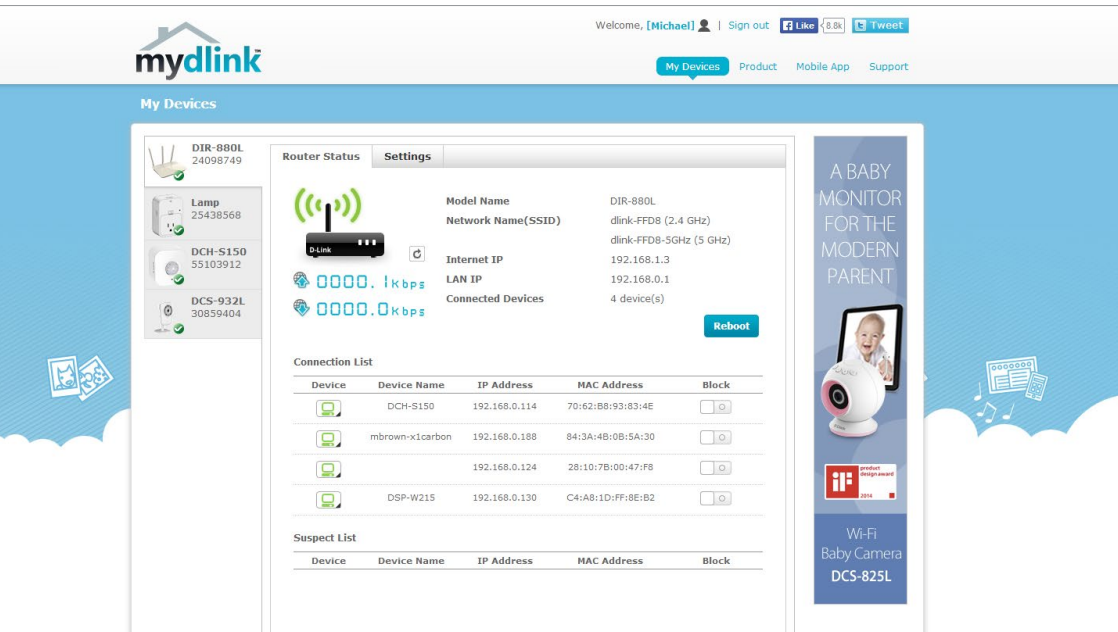
recommend it as the foundation of anyone’s smart home.

I’ll review three of the components in D-Link’s system: its DSP-W215 Smart Plug, DCS-933L Day/Night Network Camera, and DCH-S150 motion sensor. This element of the review discusses the platform as a whole. My overarching reservation with D-Link’s solution is that it’s a walled garden—it generally works only with D-Link devices.

There’s nothing to prevent you from also installing other home-control devices on your network, it’s just that you’ll need to monitor and control them separately from D-Link’s system. A smart home with stove-piped systems that require different controllers, separate log-ins, and that have different user interfaces just isn’t a smart home.

The upside of D-Link’s system is that you get a consistent user interface across all three devices. The downside is that it

D-Link’s
connected-home system works with any Wi-Fi router, but you’ll need a D-Link model to get the most out of it.



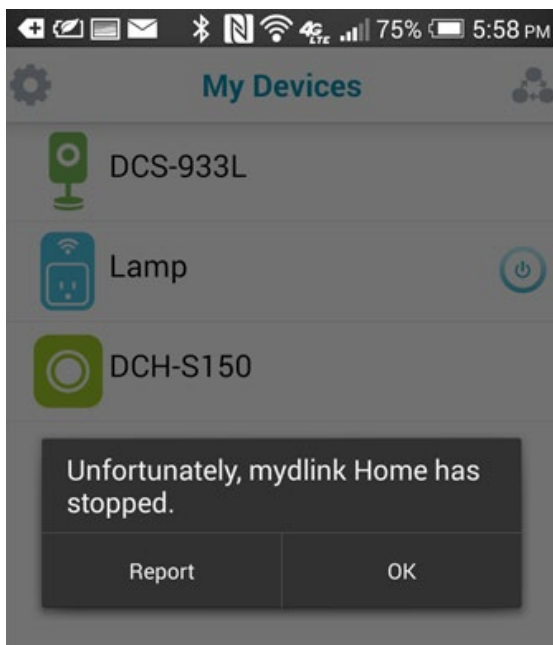
More: D-Link Connected Home

ignores all the rest of the systems in your home. There's no solution for climate control, there are no door or window sensors, there's no alarm to scare intruders away, and the camera can't capture images automatically to provide forensic evidence in the case of a break-in.

Another odd limitation of D-Link's system is that it can be managed only using a smartphone or tablet. There's no PC app, and D-Link doesn't have a Web portal that you can log in to. On the bright side, D-Link doesn't charge a subscription fee for using the service.

D-Link says it's still evaluating whether it will support IFTTT recipes, as Belkin does with its WeMo product line. IFTTT (If This, Then That) is a brilliant service that allows one event to trigger another across various products and services. It would neatly solve the walled-garden problem (but maybe that isn't really a problem from D-Link's perspective).

So those are the limitations of the D-Link Connected Home platform in broad strokes. Read my individual hands-on reviews to get the nitty-gritty on its primary components.



I'd be happier with D-Link's Connected Home platform if I didn't see this message so often.



D-Link Day/Night Network Camera delivers the basics

★★★★★ \$80

The best feature of D-Link's DCS-933L IP (go.pcworld.com/dcs933lip) camera is its zero-config installation routine. There's literally no setup routine: You basically plug it in, connect it to your router (using Wi-Fi Protected Setup or by plugging in an ethernet cable), and it works. Unfortunately, that whiz-bang feature works only with D-Link routers. If you're using any other brand of router, it's just as much of a pain in the neck to install as any other IP camera.

As you can see from the image capture on this page, the camera's resolution is pretty grainy, even for an IP camera (maximum resolution

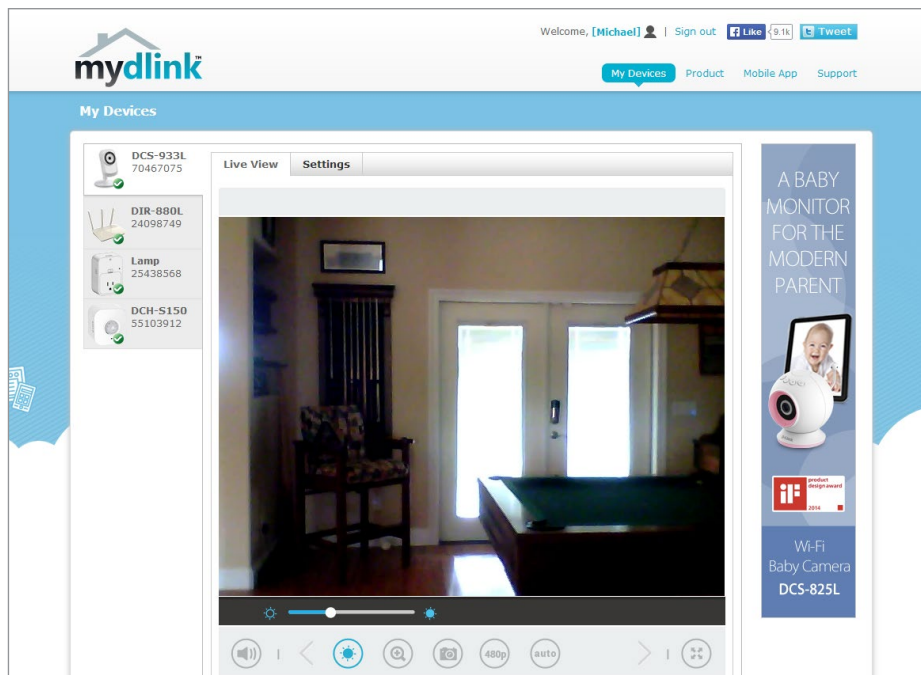
More: D-Link Connected Home

is just 640 by 480 pixels). Logitech's Alert cameras (go.pcworld.com/logitechalert) are among the best I've tested and deliver resolution of 960 by 720, but they rely on power-over-ethernet.

The DCS-933L's video feed is also very susceptible to being blown out by strong ambient light sources, including lamps. In the example shown here, the blinds inside the glass of the French doors are closed and the doors themselves face due north, so that's very indirect sunlight coming in. The DCS-933L is outfitted with infrared illumination, so it works in both daylight and in the dark, but its image quality is even worse under those conditions—especially when light is leaking in from another room.

When you're multitasking—monitoring a room while you're working on a project, surfing the Web, or what have you—sound can alert you to something happening in another room. That's

The camera's
maximum
resolution is a
grainy 640 by
480 pixels.



where the DCS-933L's built-in microphone comes in handy. But the camera doesn't have an audio-out that you could hook up to a speaker, so there's no way to set up a two-way intercom with it. More importantly, it doesn't have any means of storing files, so it can't capture a snapshot or record a video clip when sound or motion is detected.

You can configure the camera to send a message when it detects sound or motion (you can limit this to a schedule when you're not typically at home), but you can't configure rules with the mydlink Home app based on the camera detecting sound or motion. You're limited to motion-based rules based only on triggers from D-Link's DCH-S150 motion detector, but the camera doesn't appear in the list of devices that can respond to those events.

Sign up for a free mydink account and you can monitor one or more of D-Link's cameras from the Web using a PC, tablet, or smartphone. You'll find basic controls there, including a snapshot button so you can take pictures of whatever is on camera at the time and store it on your device. D-Link doesn't provide any option for storing images or video clips in the cloud, though. That's why it can take snapshots on its own.

A street price hovering around \$65 helps the DCS-933L deliver plenty of bang for the buck.

A worthy purchase?

A street price hovering around \$65 helps the DCS-933L deliver plenty of bang for the buck, including the ability to operate as a wireless range extender. It's the best component in D-Link's Connected Home Portfolio, but it's definitely not a high-end device.

More: D-Link Connected Home



D-Link Wi-Fi Smart Plug: Exceedingly basic home control

★★★★★ \$50

Plug D-Link's DSP-W215 Wi-Fi Smart Plug (go.pcworld.com/dlinksmartplug) into an AC outlet and you can use your smartphone or tablet to monitor and control any device that you plug into it—locally or from wherever you have Internet access. You can also integrate the Smart Plug into D-Link's broader Connected Home Platform. But since it's designed to control anything from a lamp to an oscillating fan, control is limited to turning the device on or off. It can't do other useful things, such as dimming a connected lamp.

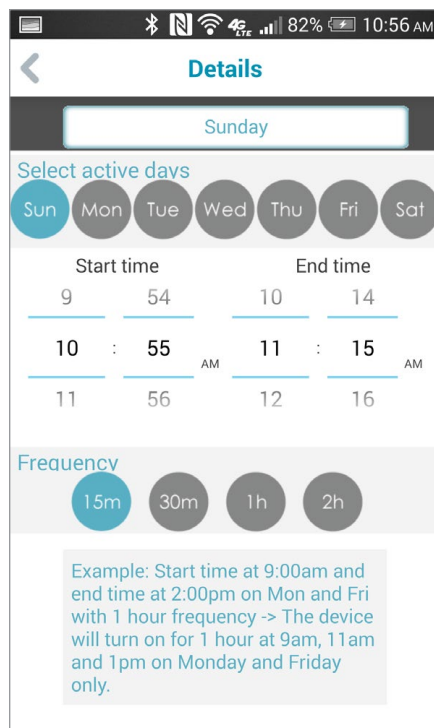
D-Link offers apps for the Android and iOS operating systems. You must open a mydlink account and enroll the Smart Plug if

you want it to work with D-Link's other connected-home devices. You'll need to provide your email address (and your smartphone number if you want to receive SMS messages), but the service is otherwise free—apart from enduring ads for other D-Link products, that is. D-Link doesn't offer PC or Mac software for monitoring or programming the device, and you can't do those things from this Web portal, either.

Although the Wi-Fi Smart Plug is a wall wart, it doesn't consume more than one AC outlet. Whether you'll be able to fit a second wall wart into the outlet depends on the size and orientation of that second wall wart. The device has one button for manual control of the outlet, and a WPS (Wi-Fi Protected Setup) button for automatically connecting to your Wi-Fi router (it operates only on the 2.4GHz frequency band). I tested it with D-Link's latest 802.11ac router, the DIR-880L (go.pcworld.com/dir880rev), but it should work with any router.

Buggy Android app

I have a bad habit of not reading instruction manuals before installing a product, especially when the product is in a category that I'm intimately familiar with. But when I opened the box with the Smart Plug, the only documentation I found inside was a GPL Code Statement (such a disclosure is required when a manufacturer uses software code subject to a GNU public license). So when I saw that the Smart Plug had a WPS button, the first thing I did was to connect it to my router using WPS.



You can schedule control events according to the time and day of the week, but there's no dawn/dusk support or any capacity to introduce slight variations.

More: D-Link Connected Home

“Okay, now what?” I said to myself. Then I remembered that D-Link’s PR department had sent me a printed reviewer’s guide for the product. Reading that, I learned that there should have been a quick installation card with the Smart Plug’s SSID and PIN printed on it.

Sure enough, when I looked in the box a second time, I found it stuck to the tape holding the bottom closed. The card also has a QR code that you can scan to download an app for your Android or iOS device. The other side of the card describes the three steps you need to follow to initially set up the Wi-Fi Smart Plug.

The first step is to install the Smart Plug using its Android or iOS client software. So I reset the Smart Plug, downloaded the Android app to my HTC One smartphone, and started over. It took a couple of tries before I could get the Smart Plug to pair to the app, but it finally worked. The first thing the app wanted to do was update the Smart Plug’s firmware. That took a minute or two, but then an error message popped up to report that Smart Plug app had stopped.

Nothing strikes fear in the heart of an experienced electronics user quite like seeing a software failure during a firmware update. You end up with a bricked device all too often.

The app asked if I’d like to report the failure, so I sent a message explaining what happened. Fortunately, when I restarted the app, it was able to find the Smart Plug and most everything operated as it should, except that every time I tapped the icon for the D-Link DCS-933L IP camera that was part of the system, the app would crash.

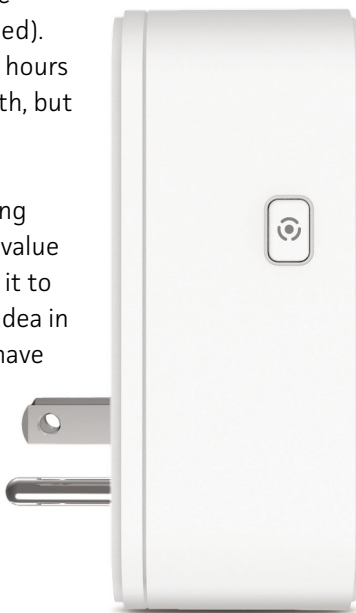
When I installed mydlink Home on an iPod and tapped the camera button, the app reported that I needed to also install the mydlink Lite app. Once I did that, the iOS version of mydlink Home worked with the camera without a problem. I then went back and installed mydlink Lite on my Android phone, but it didn’t help; the app continued to crash when I tried to access the camera.

Patience is a virtue

You can't be in a hurry when it comes to controlling your lamp. It takes about 15 seconds to launch the app and then for the app to connect to the Smart Plug. If you're in the same room as the lamp, it would be quicker to get up and hit the switch yourself. When you turn the lamp on, the app will report its current electrical consumption (in watts) and the temperature of its receptacle (in degrees Fahrenheit or Celsius, depending on how you've configured it). You can set a high temperature limit and the Smart Plug will automatically shut off if that temp is exceeded.

Tap the arrow on the right of the screen, and you can bring up additional information and controls. Tap the power-consumption button, and the app will report the power consumption (for the Smart Plug and whatever is plugged into it) on a calendar or on a defined date. Tap the wrench icon on this screen, and you can establish a power limit (the Smart Plug will shut down when it reaches the consumption budget you've defined).

The budget is based on kilowatt hours (the default value is 30 kWh/month, but you can change this as well as the beginning of your utility's billing period). The app will issue a warning when you near that limit (default value is 80 percent, but you can change it to whatever you like). This is a good idea in principle, but you would need to have Smart Plugs controlling a majority of your home's lighting and appliances for it to really make a difference. And in my home, most of my lights are in the ceiling and controlled by wall switches.



The Wi-Fi Smart Plug is relatively small and shouldn't block an adjacent outlet.

More: D-Link Connected Home

You can also program schedules when the Smart Plug will turn on and off. The Home and Away settings will be enough for most people, but D-Link provides three custom schedules as well. You choose which one you want to be active. The app has time-zone settings, but no controls for turning the Smart Plug on at dusk or off at dawn, and you can't set "about" rules that would slightly vary the times the Smart Plug turns a lamp on or off in order to make it look as though someone is actually at home.

If you're using the Smart Plug for home-security purposes—to fool a would-be burglar who's casing your home into thinking someone is inside it—lights going on and off on a rigid schedule is a dead giveaway to any smart criminal. People aren't robots. And as you've probably guessed, there's no support for advanced features such as geofencing, where lights automatically turn on and off based on the physical location of your smartphone.

Is it worth buying?

Getting the most out of the D-Link's Wi-Fi Smart Plug means confining yourself to D-Link's walled garden of devices and apps and controlling it with your smartphone or tablet. Be sure to read my review of D-Link's DCH-S150 motion detector to see how that device can trigger the Smart Plug, too.

I do think D-Link is making a mistake in not following Belkin's lead and embracing the IFTTT (If This Then That) service. It would remedy some of the Wi-Fi Smart Plug's limitations while requiring very little effort on D-Link's part. As it stands, D-Link's device has little to recommend it.



D-Link Wi-Fi Motion Sensor: Wi-Fi wasn't made for this

★★★★★ \$40

Motion sensors are the nervous system of a smart home. They can monitor doors and windows. They can relay a message to a light switch to turn on a lamp. They can trigger a connected video camera to start recording. They can send an SMS message alerting you that someone is in your home when it should be vacant. They can even inform your thermostat of a temporary change in your usual away-from-home schedule.


But to be useful, motion sensors need to be installed in the right places. So the D-Link DCH-S150's (go.pcworld.com/dlinksensor) reliance on Wi-Fi, versus low-power wireless protocols such as ZigBee or Z-Wave, renders it supremely impractical. Wi-Fi

More: D-Link Connected Home

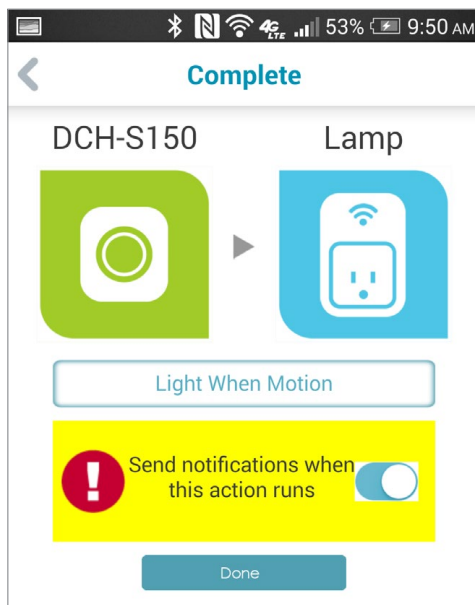
gobbles up too much power for battery-powered devices, so the DCH-S150's dependence on Wi-Fi means it must in turn depend on an AC outlet.

First, most homes don't have enough AC outlets, particularly in foyers and hallways where you'd want to monitor a door (a fact you're probably reminded of each time you plug in your vacuum cleaner). Second, you can't use an AC outlet that's controlled by a wall switch, because it might get turned off. Third, the vast majority of a home's electrical outlets are about 12 inches above the floor. Got pets moving inside your house? A motion sensor that close to the floor is pretty much useless because it will be triggered constantly.

Still interested? The DCH-S150 is very easy to install. Simply plug it in, push the WPS button, push the WPS button on your router, and it should pair (assuming the sensor is in range of your Wi-Fi network, of course). An LED glows solid green once the connection is established. D-Link rates the passive infrared sensor as being capable of detecting motion up to 26 feet away.

To configure the motion sensor, you'll need to download and install D-Link's mydlink Home app (available for Android and iOS smartphones and tablets) and sign up for a free mydlink account (or add this device to your account if you already have one). You'll need one of those devices to do anything useful with the motion sensor, because you can't do anything with it from D-Link's Web portal. 

D-Link's motion sensor is most useful when paired with other products in D-Link's Connected Home ecosystem.



Dell XPS 18: A nearly perfect tablet-desktop hybrid

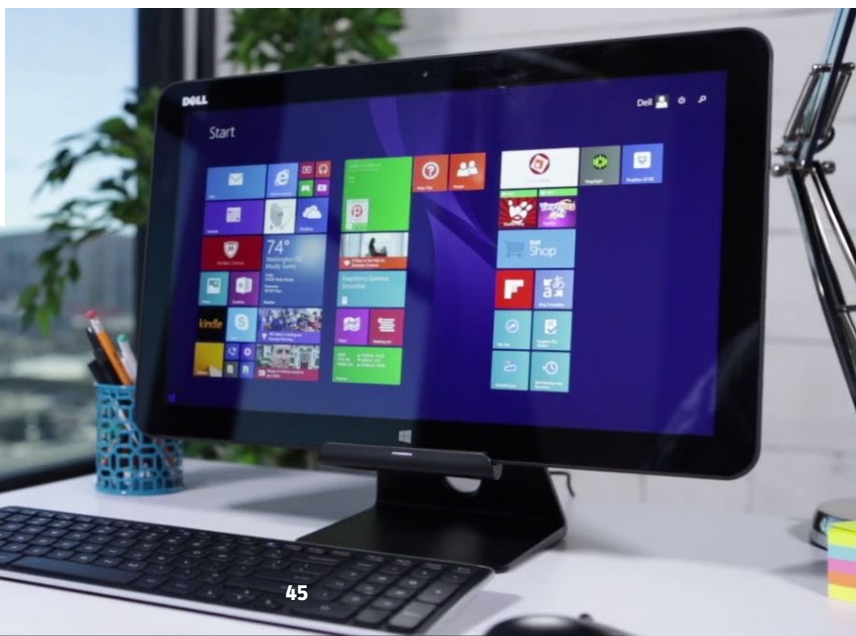
BY MICHAEL BROWN

I'VE TAKEN TO calling oversize tablet/all-in-one PC hybrids such as Dell's XPS 18 (go.pcworld.com/dxps18) "tabletop tablets," and the XPS is the crème de la crème of that category. It's just the right size and weight to move easily around the house, it's equipped with a gorgeous 18.4-inch touchscreen display, and it comes with a charging stand for those times you want it to remain stationary.

But as much as I like the XPS 18, it's not perfect. The configuration that I prefer—with a nimble Intel Core i74510U processor, 8MB of DDR3L/1600 memory, and a speedy 256GB SSD—costs a pretty penny: \$1500, to be exact. Dell offers three less-expensive models (same display, but with slower processors, less memory, mechanical



Watch the
video at
[go.pcworld.
com/xps18vid](http://go.pcworld.com/xps18vid).



hard drives—and in one case—no charging stand), but I'm sure they don't deliver the same kick.

I'm also sad to report that none of the four models has an HDMI input (so you can't use them as a display for a gaming console or a set-top box), and none of them provides the option of a hardwired network connection. The model reviewed here does come with an integrated 2x2 Intel Dual Band Wireless-AC 7260 Wi-Fi adapter. Finally, the XPS 18's speakers are nothing to write home about (more on that later).

By now, you're probably taking a second look at my four-star rating and wondering what I'm going on about. No worries. I just wanted to

get the bulk of my negative observations out of the way early: For me, the XPS 18 remains the epitome of the midsize tabletop tablet.

The heavily weighted, articulated charging stand lets you angle the display over a wide arc, so you can use it while seated at a desk or while standing over it. You must position it just so to make the proper electrical contact to charge its battery, but I'll take that minor dance over fumbling with a mechanical latch any day. Besides, an LED on the stand helpfully lights up when you've achieved success.

The tablet can also be

For me, the XPS 18 remains the epitome of the midsize tabletop tablet.

Dell XPS 18

PROS:

- Powerful components
- Highly versatile
- Great display

CONS:

- No HDMI input or wired ethernet
- Mediocre speakers
- Button press needed to wake the mouse

BOTTOM LINE:

The XPS 18 is expensive (in this configuration, that is), but it's the best midsize portable all-in-one we've seen.

\$1500





charged independently of the charging stand. If I were to buy an XPS 18, I'd buy a second power brick to avoid the awkward reach-around that's required to unplug the power supply from the stand. But if Dell's engineers are reading this, how about adding a gigabit ethernet jack to the stand next time? I dig 802.11ac, but a wired connection will always be faster. That and an HDMI input on the tablet (not to beat a dead horse) would be nirvana.

Remove the display from the stand, and you can use it as a conventional tablet (with a magnesium frame and an aluminum backplate, the XPS feels lighter than its five pounds), or you can flip out a pair of feet on the back and use it like a conventional all-in-one. You can also lay it flat for playing two-player games on its touchscreen, or flip it around—so its feet are at the top—and lay it almost completely flat. The strong flipper feet are how Dell gets away

Dell's XPS 18 comes with a very good wireless keyboard and a pretty good wireless mouse (though the latter shuts off after a few hours' idle time).



You don't need to drag the charging stand with you to use the XPS 18 in desktop mode.

with selling the lower-end model without the charging stand.

The XPS 18 lasted an impressive 3 hours, 37 minutes on battery power. That's plenty long enough for a movie or even a gaming session. Note that our battery run-down test is quite punishing, so your mileage may vary. Dell, for its part, says you should be able to squeeze 5-plus hours out of it if you leave its ambient light sensor turned on. We turned it off for our benchmark and tested with brightness fixed at 200 nits as measured by a light meter.

The 18.4-inch WVA display looks great and delivers excellent off-axis viewing. It also responds quickly and accurately to touch, including pinch-to-zoom gestures. Movies looked good, especially when streaming from the hard drive or attached storage, but reliance on Wi-Fi led to occasional stuttering while I watched YouTube videos. That probably won't be an issue with an 802.11ac router (I tested the machine at the office, which is outfitted with 802.11n access points).


Subpar sound

The XPS 18's ultrathin form factor (it's just 0.7-inch thick) doesn't leave much room for speakers, and the tiny drivers Dell was able to build in sound as thin as the tablet looks. Listening to Peter Gabriel's cover of David Bowie's "Heroes" (from Gabriel's high-definition *Scratch My Back* release), the opening bass strings

sounded more like cellos, and the cellos resembled violas. Gabriel's voice, meanwhile, was hollowed out, with an unpleasant sibilance.

The speakers are mounted on the left and right sides of the display, but sound also emanates from grilles on the back. You'll want to use headphones if you want good sound, or plug in a set of self-powered speakers if you want to fill up a room.

The XPS 18 is capable of playing lightweight games (and less-demanding AAA titles, such as *BioShock Infinite*, if you're willing to dial down the resolution and image quality). Hard-core gamers won't like this computer, but that's clearly not Dell's target audience. This machine is designed for families that want a PC that can stay in the kitchen (or den, or living room, or bedroom) most of the time, but be quickly redeployed to another room—with or without its keyboard, mouse, and power supply—for fun and games.

Expensive? Yes, if you want the best configuration. Worth it? Definitely. 

Hard-core gamers won't like this computer, but that's clearly not Dell's target audience.



Corsair Voyager Air 2 adds cloud-storage syncing

BY JON L. JACOBI

CORSAIR IS GETTING GOOD at the Wi-Fi streaming game. The Voyager Air 2 (go.pcworld.com/voyagerair2), a mobile hard drive that creates its own wireless hotspot to stream files and multimedia, is a distinct improvement over the original product; in fact, it's a contender for best in class.

This latest rendition offers the same 1TB of storage for the same \$180, but the case has improved ergonomically and you'll find several new features in its firmware. The new industrial design is svelter, and the power and Wi-Fi on/off buttons are now part of a recessed rocker switch on the top front of the unit. This setup is less likely to snag on your pocket or backpack than the original's slide switches.

Found on the same panel/switch are the charging and battery life indicator lights. The former is blue when the Wi-Fi is enabled, while the latter starts green when the battery is fully charged, turns amber when it's less than 50 percent of capacity and finally, turns red when you're about to run out of juice.

My test Voyager Air 2 came with a USB 3.0 cable, an AC/USB wall charger and an USB/AC cable that plugs into the unit's AC receptacle. Corsair says a pure AC adapter that will provide faster charging times will accompany shipping units. The Voyager Air 2 will also run and charge as a direct-attached drive using strictly USB 3.0 bus power. Note that as with others of its ilk, the drive will only function as DAS (Direct Attached Storage) when using the USB port. Wi-Fi shuts off in that scenario.

Cloud storage syncing

The neatest new trick in the Voyager Air 2's repertoire is syncing with Dropbox and Google Drive. To set it



Corsair made changes inside and out the redesigned Voyager Air 2.

up, click on the link the Voyager Air 2 provides, enter your online login info for the services, then copy and paste the generated access code. This is all dependent upon having Internet pass-thru enabled and being connected to Web-enabled Wi-Fi network. Hopefully, Corsair will soon work other common services into the mix, such as OneDrive. You can access these settings via the Voyager Air 2's nicely rendered HTML interface (default address: 192.168.77.1).

The Voyager Air 2 is both DLNA- and AirPlay-compatible. The drive is also fully functional as a wireless NAS, so you may, of course, open a file from a folder using Windows Explorer (or the Finder on a Mac).

Equipped with an 802.11b/g/n radio, the Voyager Air 2 streamed medium bit-rate 1080p files smoothly in my hands-on. I didn't have much luck with a full-on 30GB Blu-ray rip, which proved unplayable via DLNA in Windows Media Player and jerky even when opened by WMP from a folder. Any two-hour file in the 1GB to 10GB range will stream fine.

The Voyager Air 2 is fairly fast. Direct-attached, the drive read and wrote large files at around 40 megabytes per second (MBps). Drop that to 23 MBps reading

Corsair Voyager Air 2 (1TB)

PROS:

- Good media-streaming performance
- Internet pass-through
- Storage syncs with Dropbox and Google Drive

CONS:

- Internal battery can't charge other devices
- Unable to stream very high-definition video (e.g., Blu-ray rips)

BOTTOM LINE:

The Voyager Air 2 improves on a winning formula by slimming down its enclosure and adding Dropbox and Google Drive syncing.

\$180




and 35 MBps writing with smaller file types. Battery life in my ad-hoc streaming tests was right around five hours.

The Voyager Air 2, like the original, can't charge other mobile devices. True, only a handful of its competitors can (Samsung's Wireless Mobile [go.pcworld.com/samsungwirelessmobile] and Kingston's MobileLite [go.pcworld.com/kingmobilelite] being two examples), but it's a shame to have such a large battery and not be able to use it to extend the life of your cell phone. If you're looking for ethernet connectivity, that should be available on the Voyager Air 2 Plus by the time you read this.

The neatest new trick in the Voyager Air 2's repertoire is Dropbox and Google Drive syncing.

A worthy redesign

Corsair has delivered a reliable portable wireless streaming solution with good battery life and performance in a more travel-worthy package. The Voyager Air 2 is as good or better than the competition in most regards. That said, it would be nice to see vendors, including Corsair, pick up on 802.11ac, which is capable of streaming high bit-rate Blu-ray smoothly in the right environment.

Note: Owners of the original Voyager Air can acquire the Dropbox/Google Drive syncing capability merely by upgrading the firmware. Corsair is responsive when it comes to that kind of stuff. Good on 'em. 



Big, bargain Nixeus VUE27D cuts too many corners

BY JIM GALBRAITH

THE NIXEUS VUE27D (go.pcworld.com/vue27d) is an affordable, 27-inch desktop LCD display that combines an LED-backlit IPS panel with one of the crappiest stands I've seen.

Nixeus takes an interesting approach here: Use high-quality components where it counts (screen and backlight), but keep the price down by cutting back on features such as speakers, webcams, and integrated USB hubs that might never be used. If the designers had stopped there, this review would have turned out much different.

Upon opening the box, I knew this was going to be a different sort of experience. I can't remember the last time I needed screws and a screwdriver to attach a display's base to its stand, and the stand to the display. Eight screws later, the assembled stand offered height adjustment and can tilt, swivel and even pivot into portrait mode. But it was also wobbly, and I found it difficult to level the screen. The display seemed to tilt a bit to the right. When I adjusted its height, gravity would sometimes win and the display would sink back down.

The VUE27D's native resolution is 2560 by 1440 pixels, but its only video input is a DisplayPort connector; there are no HDMI or DVI inputs, and no USB hub. The display does not offer a webcam or ambient light sensors, although you can see dimples for where'd they go in the bezel.

Nixeus VUE27D

PROS:

- Relatively inexpensive (for its size and resolution)
- DisplayPort input
- Stand tilts, swivels, and pivots

CONS:

- Evidence of shoddy construction
- Poor image quality
- No other inputs or extras

BOTTOM LINE:

The Nixeus VUE27D's low price tag is tempting, but this is definitely a case where you get what you pay for.

\$470 (street price)



There are seven buttons on the bottom edge of the display, but only four are used, and they aren't supported by any on-screen menus. Tap the brightness-up button, and there's no status bar to show you the current brightness setting or when you've hit the max or minimum. The screen felt overly bright at its default settings (I measured it at 300 nits), so I just held the brightness-down button until it seemed to stop dimming at 260 nits, which is pretty bright to be the monitor's lowest setting.

I looked at a variety of images on both Mac OS X 10.9 and Windows 8.1. The IPS screen offers wide viewing angles, and text and photos looked good on its glossy screen. I didn't find any stuck or dead pixels, but there was an imperfection under the glass that was visible in bright images. It looked kind of like a teeny telephone handset. My guess is that someone dropped a tool onto the screen before attaching the glass cover.

I also found some screen-uniformity issues, where the screen was brighter in some areas than others. I could see vertical columns of brighter and darker areas across the screen. The problem was easily seen on white and light images, not so much on darker images.

The VUE27D's paucity of features can be excused by its low price tag. I can't say the same of its poor image and build quality. 🛑

I found some screen-uniformity issues, where the screen was brighter in some areas than others.

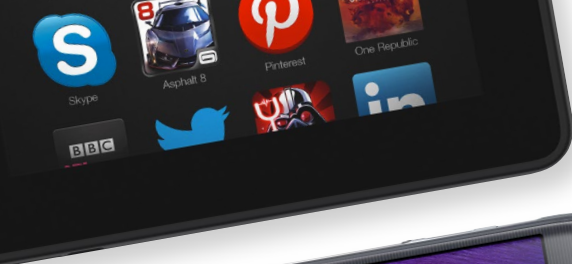
Welcome to Greenbot, a new website for Android enthusiasts.



We've got the 'droid info you're looking for.
Helpful tips, critical reviews, and expert
analysis for passionate Android users
of every experience level.

www.greenbot.com





THE BIG CHOICE BETWEEN
TWO SMALLISH DEVICES

PHABLET **VS.** MINI-TABLET:

As phones grow and tablets shrink, they're merging in form, but not always in function. We size up the key specs and differences you should care about.

By Ben Taylor, FindTheBest



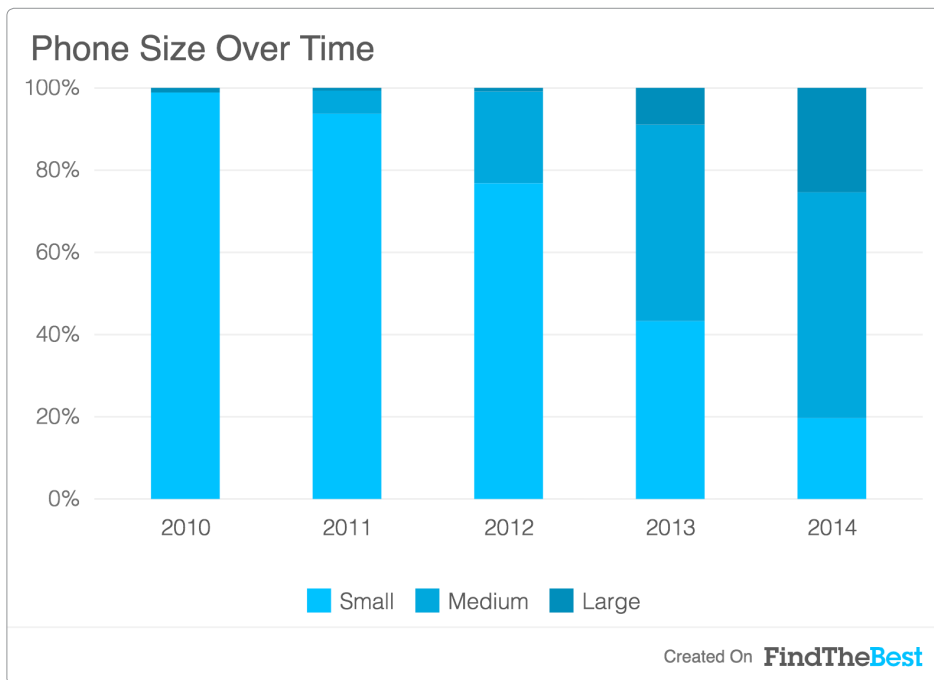


Tiny screens are nearing extinction, while large phones are poised to grab half the market by 2015.



Take a look at smartphone and tablet releases over time, and you'll detect a trend: Smartphones are getting bigger, while tablets are getting smaller.

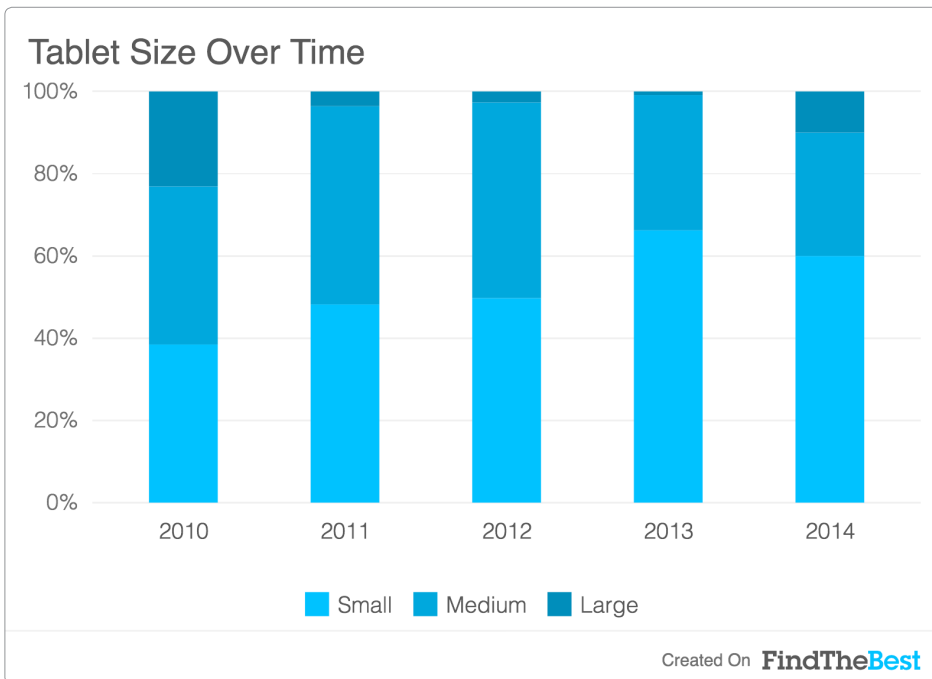
To show how the market has changed over the last five years, here's the proportion of small (with screens that are less than 4.5 inches), medium (between 4.5 and 5.2 inches), and large phones (more than 5.2 inches) released since 2010:



Tiny screens are nearing extinction, while the large phone (aka “phablet”) looks poised to grab half the market by 2015. Today, for each new handset with a 4-inch screen (Sony Xperia Z1 Compact), there are four corresponding phablets (LG G3, iPhone 6 Plus, HTC One Max, Samsung Galaxy Note 4).

On the next page is the same chart for small (screens less than 9 inches), medium (9-to-11-inch), and large (over-11-inch) tablets:

The chart shows a little more flux, but on the whole, tablets are getting smaller. In 2013 and 2014, over 60 percent of all tablets could be considered small (less than 9 inches in screen size), up from 38 percent in 2010. Big tablets like the 12-inch Microsoft Surface Pro 3 and the Samsung Note Pro 12.2 have trickled out once every few months, but small tablets remain far more common. Consider that the Galaxy Tab 4, Asus Memo Pad 7, Dell Venue 7, and Hisense



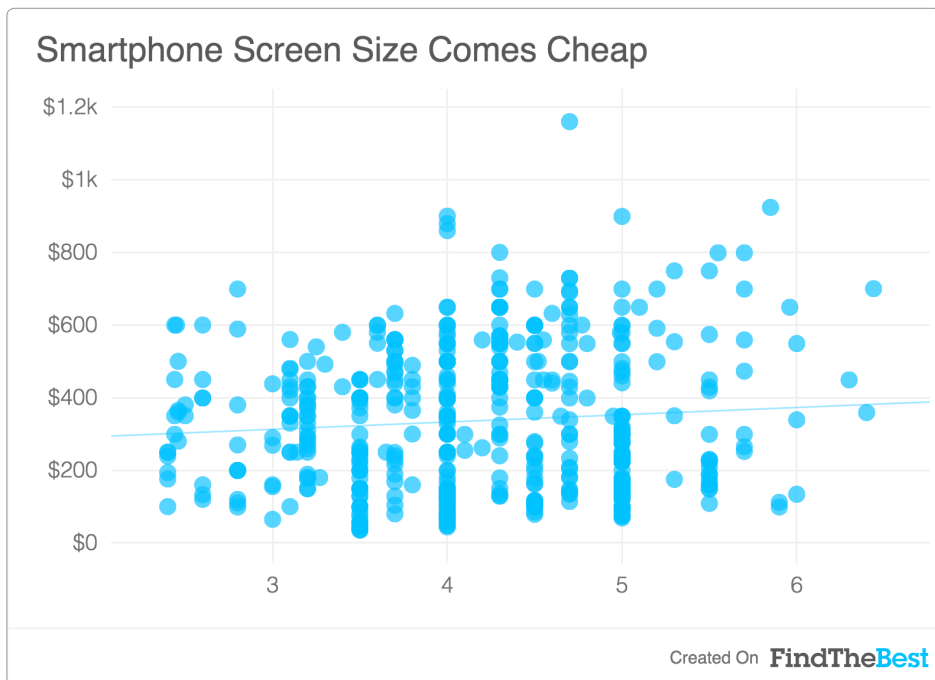
Sero 7 Pro all came out this year, and all have just 7-inch screens.

As smartphones grow and tablets shrink, we have to wonder: Are the two devices converging? Does anything separate the modern small tablet (under 9-inch screen) from the large phone (over 5.2 inches), besides the fact that the latter can make calls? And which offers the bigger bang for your buck?

Let's take a look at the data, including price, size, camera, battery life, and more.

Average prices: Tablets show more spread

Comparing price is a bit tricky, given that most people buy smartphones with a two-year contract but purchase tablets at full price. To keep things simple, we'll throw out the contracts and focus only on the manufacturer's suggested retail price (MSRP).



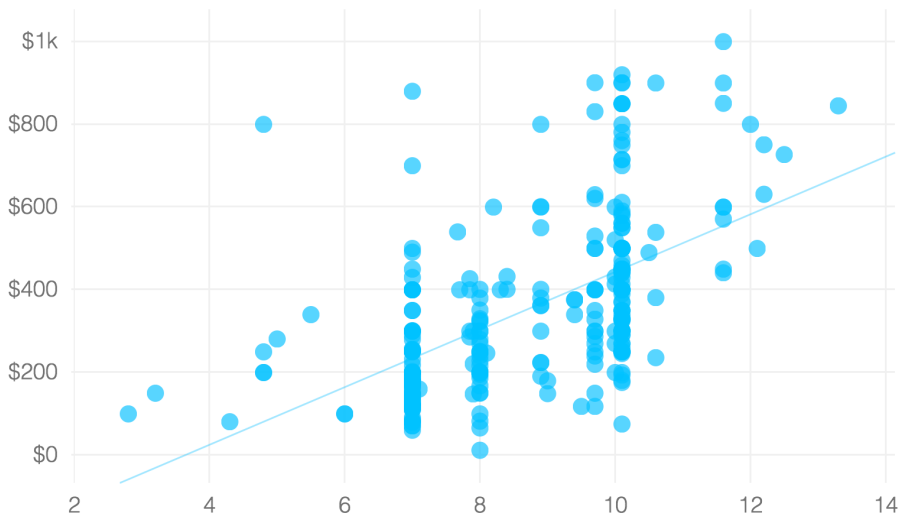
Based on a sample of more than 1600 phones and 750 tablets, we found that smartphone prices moved surprisingly little even as display sizes grew. The average price per size range was as follows:

- Small phones: \$343
- Medium phones: \$368
- Large phones (“phablets”): \$397

Tablet pricing, on the other hand, charts a far more linear course. As the following averages show, the bigger the tablet, the higher the price:

- Small tablets: \$304
- Medium tablets: \$533
- Large tablets: \$899

Tablet Screen Size Comes at a Premium



Created On **FindTheBest**

Overall, tablets and smartphones have significantly different pricing structures. The tablet gets a lot more expensive as screen size goes up, while the biggest smartphones are only about 15 percent more expensive than the smallest, on average.

Here's a fun fact: When it comes to just the large phone versus the small tablet, their prices are quite similar—separated by just \$93, on average.

Average price per inch: Phones start high, stay high

A straight-up price comparison may not be fair when the 12-inch Surface Pro 3 gives you so much more real estate than a 4-inch iPhone 5s. With that in mind, we did the same calculation for price per inch.

For phones, the average cost per inch started high and stayed high:

Inch for inch,
small tablets
offer the most
screen real
estate for
your money.



- Small phones: \$97 per inch
- Medium phones: \$74 per inch
- Large phones: \$70 per inch

Tablet prices made more sense, getting bigger along with the device. Note that the average price per inch for a large tablet is the same as the average for large phones:

- Small tablets: \$42 per inch
- Medium tablets: \$53 per inch
- Large tablets: \$70 per inch

By the inch, small tablets are by far the most affordable device category of the bunch—40 percent cheaper than large phones. If you simply want the most screen real estate for your money, the small tablet is the clear winner.

The camera: A priority for phones, not tablets









For camera quality, it's a different story. As with MSRP, we calculated the average number of megapixels for each device and size category below (2013 data only):

(Note: Sensor size would be an even more telling metric, but tablet makers are inconsistent about reporting any camera spec other than megapixels. So for our purposes here, we stuck with megapixels—the most widely and reliably reported figure.)

Phone-camera resolution seems to grow along with phone size, as shown here:

- Small phones: 5.7 megapixels
- Medium phones: 7.7 megapixels
- Large phones: 9.9 megapixels

2014 Phones with More than 8 Megapixels

Phone	Rear Camera ▾	Release Date
 i-Mobile IQ X OKU	 22 MEGAPIXEL	May 2014
 Motorola DROID Turbo	 21 MEGAPIXEL	October 2014
 Sony Xperia Z2	 20.7 MEGAPIXEL	April 2014
 Sony Xperia Z1 Compact	 20.7 MEGAPIXEL	February 2014

Created On **FindTheBest**

Even though tablet sizes generally range from 7 to 13 inches, camera resolution in tablets is surprisingly stagnant:

- Small tablets: 3.8 megapixels
- Medium tablets: 4.0 megapixels
- Large tablets: 5.8 megapixels

For both phones and tablets, camera quality tends to increase as screen size increases. But the smartphone is clearly better on average. Consider that only six tablets have ever shipped with a camera above 8 megapixels. Compare that to smartphones, where there have been 46 such devices released in 2014 alone. See the list below for details.

Even if you consider a tablet with a fairly good camera, like the 8.1-megapixel Sony Xperia Z2, you'll find that neither experts nor users comment much on photography in their reviews. Most customers don't seem to take cameras seriously on tablets, and likely as a result, neither do manufacturers. The large phone wins in a rout.

Storage: Similar, except for large tablets

Tablets may not make phone calls or take great pictures, but they're better equipped for storing tons of photos and videos, right?





Not really. In the data we gathered (since 2013), the average storage capacity on different-size phones varies only slightly:

- Small phones: 10.2GB
- Medium phones: 11.5GB
- Large phones: 13.9GB

Even though tablets are bigger in size, their storage amounts hardly differ from those of phones. The exception: Large tablets come with (comparatively) spacious storage:

- Small tablets: 12.7GB
- Medium tablets: 17.4GB
- Large tablets: 89.6GB

Bigger Phones = Better Battery Life

Phone	Screen Size ▲	Talk Time	Battery Capacity
 Apple iPhone 6	4.7 INCH	14 HOURS	1,810 MAH
 Samsung Galaxy S4	4.99 INCH	17 HOURS	2,600 MAH
 HTC One (M8)	5 INCH	20 HOURS	2,600 MAH
 Apple iPhone 6 Plus	5.5 INCH	24 HOURS	2,915 MAH

Created On **FindTheBest**

For each device, base-model storage increases slightly with each additional inch of screen size—with one exception: large tablets. Here, we find there's little difference between large phones and small tablets. The real divide for this category is the Giant Tablet vs. Everything Else.

Average battery life: Smartphones prevail

For battery life (based on data since 2013), smartphones stand out for their greater stamina:

- Small phones: 9.7 hours
- Medium phones: 12.8 hours
- Large phones: 17.7 hours

Large phones simply hold their juice better than smaller ones. The latest evidence of this is the 5.5-inch iPhone 6 Plus, whose 24-hour battery life dwarfs the 4.7-inch iPhone 6's 14 hours. The likely explanation? Battery capacity. By the nature of their size, larger phones have more room for packing in plenty of milliamp hours (mAh).

Tablets, on the other hand, struggle somewhat to get through the day:

- Small tablets: 8.3 hours
- Medium tablets: 8.6 hours
- Large tablets: 10.8 hours

Note that tablets have better battery life as they get bigger, but the difference between small and large tablets is generally less pronounced than it is for phones. With tablets, those 11- to 13-inch screens likely require so much power that it mostly offsets the advantage of a giant battery.

For the phablet versus the mini-tablet, however, the distinction is clear: The phablet dominates.

Your choice hinges on a few key specs

If you throw out the ability to make phone calls, the choice between a mini-tablet and phablet comes down to a few simple factors.

Get a large smartphone if you're...

- An aspiring Ansel Adams
- Always looking for your charge cord

Get a small tablet if you...

- Are on a budget
- Just want a bigger screen

But if you're worried about anything else—like storage, availability, or the overall price—don't. For those attributes, the phablet and the mini-tablet are quickly becoming the same device. 🔌

How many light bulbs does it take to change an American?



It's no joke: climate change is a critical issue for all life on Earth. But can the actions of one individual really make a difference? Visit nature.org to calculate your impact on the world around you and learn about steps you can take to make the world a better place for us all.

nature.org/calculate

The Nature
Conservancy 
Protecting nature. Preserving life.™

How routers with **strong QoS** make better home networks

BY ERIC GEIER



ILLUSTRATION BY
MATTHEW HOLLISTER

The devices connected to your router

battle for bandwidth like **thirst-crazed beasts** jostling for access to a receding watering hole. You can't see the melee, but you can feel its impact. Without intervention, the strongest **competitors**—a BitTorrent download, for instance—**will drink their fill**, even if it's not essential to their survival, while others—a VoIP call, a Netflix stream, or a YouTube video—**are left to wither and die**.

A router with good Quality of Service (QoS) technology can prevent such unequal distribution. You can dip only one straw into the Internet at a time, after all. QoS ensures that each client gets its chance for a sip, and it also takes each client's specific needs into account. BitTorrent? Cool your jets. If one of your packets is dropped, it'll be resent. You can run in the background. Netflix, VoIP, YouTube? Lag results in a bad user experience. Your data gets priority.

That's a gross oversimplification, of course. Here's a more in-depth explanation. QoS, also known as traffic shaping, assigns priority to each device and service operating on your network and controls the amount of bandwidth each is allowed to consume based on its mission. A file transfer, such as the aforementioned BitTorrent, is a fault-tolerant process. The client and the server exchange data to verify that all the bits are delivered. If any are lost in transit, they'll be resent until the entire package has been delivered.

That can't happen with a video or audio stream, a VoIP call, or an online gaming session. The client can't ask the server to resend lost bits, because any interruption in the stream results in a glitch. QoS recognizes the types of traffic moving over your network and prioritizes it accordingly. File transfers will take longer while you're watching a video or playing a game, but you'll be assured of a good user experience.

Traditional QoS

Different routers take different approaches to QoS. With some models, you identify the type of traffic you want to manage and then assign it a priority: High, medium, or low. With others, you can choose specific applications, or even identify the specific ports a service or application uses to reach the Internet. Another way is to assign priority to a device using its IP or MAC address.

Configuring QoS this way can be very cumbersome, requiring lots of knowledge of protocols, specific details about how your router operates, and networking in general. Some routers, for instance, depend on you to inform them of the maximum upload and download speeds your ISP supports. Enter the incorrect values, and your network might perform worse instead of better.

Fortunately, router manufacturers have made great strides in making QoS easier to configure. In some cases, it's become entirely automatic.

Many older routers, such as Netgear's WNR2000 802.11n, have predefined Quality of Service for a limited number of applications, but you must configure your own rules for anything the manufacturer didn't think of.



Intelligent QoS

Some routers include the option of automated QoS handling. Most newer models support the Wi-Fi Multimedia (WMM) standard, for instance. WMM prioritizes network traffic in four categories, from highest to lowest: Voice, video, best effort (most traffic from apps other than voice and video), and background (print jobs, file downloads, and other traffic not sensitive to latency). WMM is good, but it ameliorates only wireless network contention. It doesn't resolve the battle for bandwidth among wired network clients.

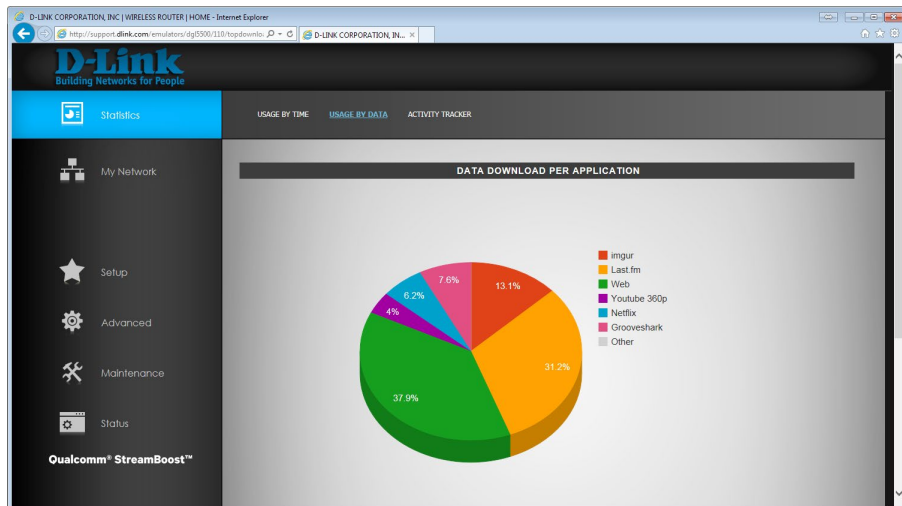
Better routers go further to cover both sides of the network. They automatically choose which traffic gets priority based upon assumptions—putting video and voice ahead of file downloads, for instance. The intelligence behind each vendor's QoS functionality, however, varies according to the quality of the algorithm in use and the processor power available to run it.

Right now, Qualcomm's StreamBoost traffic-shaping technology seems to be the hot QoS ticket. StreamBoost is based on technology originally developed by Bigfoot Networks (go.pcworld.com/bigfoot). Bigfoot, a company that Qualcomm acquired in 2011, designed network-interface cards targeted at gamers, who are among the most latency-sensitive computer users in the world.

Qualcomm doesn't manufacture routers, but the company does design and manufacture processors that go into high-end consumer routers such as Netgear's Nighthawk X4 (go.pcworld.com/nighthawkx4) and D-Link's DGL-5500 Gaming Router (go.pcworld.com/dlink5500). While there's no technological barrier to running StreamBoost on a Marvel or Broadcom processor, Qualcomm currently doesn't license the firmware separate from its chips.

StreamBoost can distinguish between and prioritize latency-

The better routers automatically choose which traffic gets priority based upon assumptions—putting video and voice ahead of file downloads, for instance.



sensitive traffic (audio, video, gaming, and so on) over latency-insensitive traffic (downloads, file transfers, and so on), and it can adjust its allocation of bandwidth to various network activities to ensure all clients get a good experience. If several clients are streaming Netflix videos at the same time, for instance, it can automatically reduce one or more of those streams from 1080p quality to 720p quality to ensure all the sessions have enough bandwidth.

What's more, StreamBoost can distinguish among the types of client devices and reduce the image quality streaming to a smartphone or tablet, because the degradation won't be as noticeable on those small screens as it would be on a big-screen smart TV.

StreamBoost's bandwidth graphs and tools provide better visibility and more precise tuning than other QoS tools I've seen. And if you opt in to participate, you'll receive ongoing updates from Qualcomm's database in the cloud so that your router can continually optimize its performance and learn how to handle new devices that come on the market. StreamBoost support alone won't make a crappy router great, but it can make a difference.


Qualcomm's StreamBoost technology allows the D-Link DGL-5500 to display exactly what's consuming the bulk of your network's bandwidth.

Don't stop with QoS

Good Quality of Service is essential if you use your network to stream video, play online games, make VoIP and Skype calls, or watch YouTube. The performance benefits you'll realize might even save you from moving to a pricier service tier with your ISP.

But you can do other things beyond traffic shaping. Perform a site survey using a tool such as Kismet (www.kismetwireless.net) to see which radio channels your neighbors rely on, and configure your router to use something else. There are only three non-overlapping channels in the 2.4GHz frequency band: 1, 6, and 11. Use one of these if possible.

If you have a dual-band router that supports both the 2.4- and 5GHz frequency bands, use the less-crowded higher frequency for latency-sensitive traffic, and reserve 2.4GHz for things like downloads. There are many more non-overlapping channels at 5GHz, and the higher channels—150 and up—support more bandwidth than the lower ones.

Lastly, if you're using an 802.11n (or older) router, consider moving up to a model based on the newer 802.11ac standard (go.pcworld.com/new80211ac). Even if your clients are stuck with 802.11n adapters, you'll still see a significant performance boost with an 802.11ac router. 

An 802.11ac router can deliver higher performance even with clients that are equipped with 802.11n adapters.





**“SURE,
AT FIRST I WAS A LITTLE TAKEN ABACK
BY THE WHOLE PEEING STANDING UP THING.
BUT I TAUGHT HIM TO THROW A STICK
AND NOW HANGING OUT WITH HIM
IS THE BEST PART OF MY DAY.”**

**—EINSTEIN
adopted 12-09-10**

**A PERSON
IS THE BEST
THING TO HAPPEN
TO A SHELTER PET**



adopt

theshelterpetproject.org



HERE'S HOW

CONTENTS

78 Outlook organization
tips: 5 ways to tame
the email pile

86 Make your own
portable hard drive
from an old
PC drive

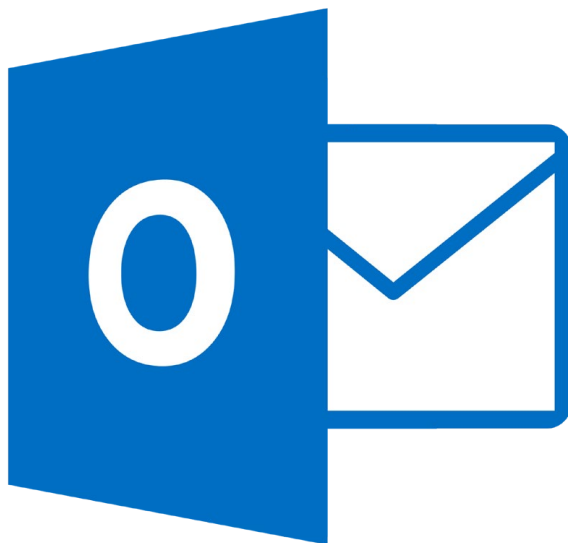
90 Hassle-Free PC
Three free tools that
reveal your PC's
deepest details

93 Answer Line
Prepare your PC for a
trip to the shop

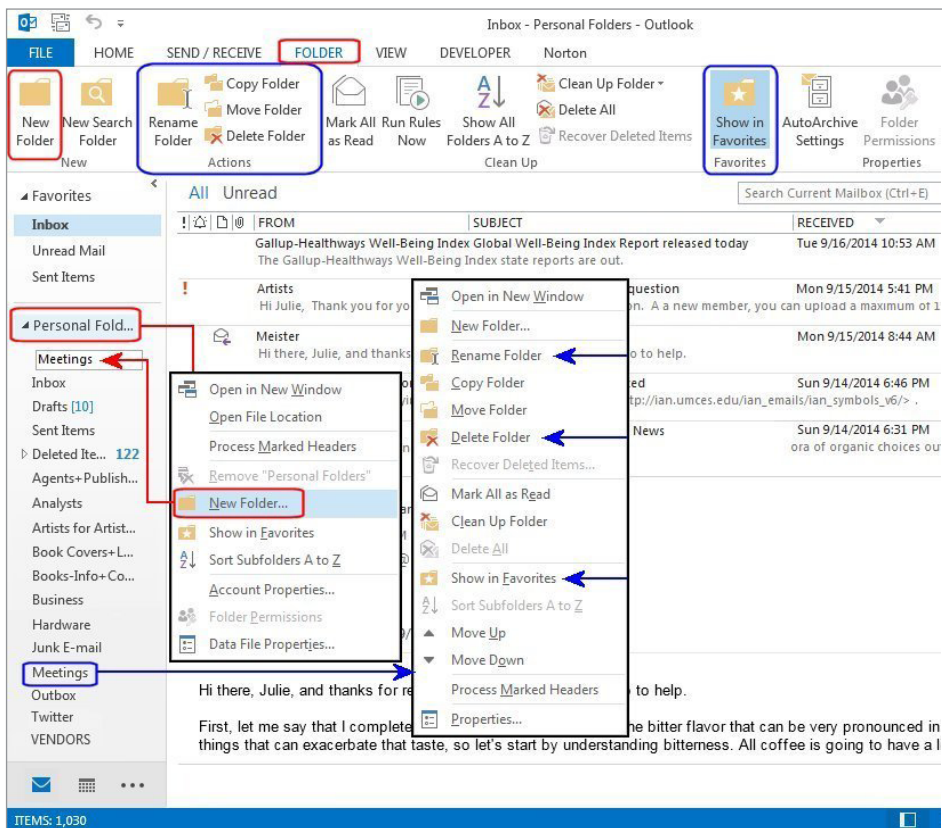
Outlook organization tips: 5 ways to tame the email pile

Helpful tips to help you cut through inbox clutter and organize Outlook.

BY J. D. SARTAIN



MICROSOFT'S OUTLOOK IS an irreplaceable tool for countless organizations and a veritable legion of people around the globe—but it's not a beloved one by any stretch. Nobody actually enjoys sifting through a stuffed inbox or responding to meeting requests all day long; you want to open your inbox, do what you need to do, and get the heck out as fast as possible.



That's where these Outlook organizational tips come in. Adopting these five simple practices will make diving into your inbox less painful—and far less time consuming.

Use folders to reduce inbox clutter

It seems easy to let emails just pile up in your inbox, until you try to find something and have to suffer through a manual search. Instead, move messages to a custom folder that relates to the company or the message. It's just like using a file cabinet.

Custom folders are easy to create, manage, and search; and there

Create folders
to make emails from specific projects or people easier to find.

are no limits to size or count except disk space or limitations imposed by your system administrator. But don't go crazy! Too many folders can also slow Outlook's responses. You wouldn't create a folder in a file cabinet for just a dozen documents. If you're creating one folder for each client or each company, or even by subject/content (such as taxes, receipts, travel), it's ok to consolidate the infrequent communications into a Misc folder.

Don't go crazy. Too many folders can also slow Outlook's responses.

Here's how to get started with custom folders.

- 1.** Right-click on the *Personal Folders* option in Outlook's left-hand navigation pane, then choose *New Folder* from the drop-down list. (Alternatively open the Folder tab and click the *New Folder* button from the New group.)

- 2.** In the Field box, type the folder name (e.g., Meetings) and press *Enter*. If you change your mind or notice a typo, right-click the new folder and select *Rename Folder* or *Delete Folder*. You can also Move it, Copy it, or add it to the Favorites section via the right-click menu. You can also select any one of these buttons from the Actions group.

- 3.** Notice all the other Folder options on the Ribbon menu. You can Search, Sort, Archive, Apply Rules, Mark all Emails as Read, Clean Up, etc.—everything you need to manage your folders.

Create and assign categories

Categories help organize the emails in your active Inbox so you can quickly determine the status of each email; for example: Pending, Due, Done, etc. You can also sort by categories. So, for example, if you only perform email maintenance once a week, you can sort by category, quickly locate all the Done emails, and then move them to their corresponding folders.

- 1.** To create a new category, right-click on the transparent square box in the Categories column, and select *All Categories* from the drop-down list. In the Color Categories dialog box, click the *New* button. Enter a Name for your category in the Add New Category dialog box.

- 2.** Click the down-arrow beside the Color field and choose a color for

the category. Next, click the down-arrow beside the Shortcut Key field and choose a shortcut key (CTRL-F2 thru CTRL-F12) for the category. These keys are not used by other functions in Outlook, so they are available for category shortcuts.

3. Click *OK* in this dialog, then click *OK* again in the Color Categories dialog box and the new category is added to your list. Note: there are 25 colors, but only 11 shortcut keys, so choose the most frequently used categories for your shortcut keys.

4. To attach a category to an email, select the email, then right-click anywhere in the Categories column, and select a category from the drop-down list. Note: emails can have more than one category. To remove a category, right-click anywhere in the Categories column on the selected email, and click *Clear All Categories* from the drop-down list. This will only clear all the categories attached to the selected email. It will not affect your other emails.

Quick Steps

Quick Steps is a feature that allows you to automate several tasks into a single step (or click) such as Moving emails to a specific folder, deleting, copying, forwarding, etc. It's a wonderful time saver for users who get lots of emails from a single sender, be it junk mail or a close friend.

Once you define a Quick Step to automate a task, you can then click any email, then click the automated task from the Quick Steps menu, and Outlook performs all the steps. You can also assign the task to an open, unused shortcut key. (Again: Only nine shortcut keys are available, so choose wisely).

1. To create a new Quick Step: From the Home tab, click the bottom down-arrow in the Quick Step group, and select *Create New* from the list; or select *New Quick Step* from the first list and *Custom* from the second list. In the Edit Quick Step dialog box, enter a name for this task in the Name field.

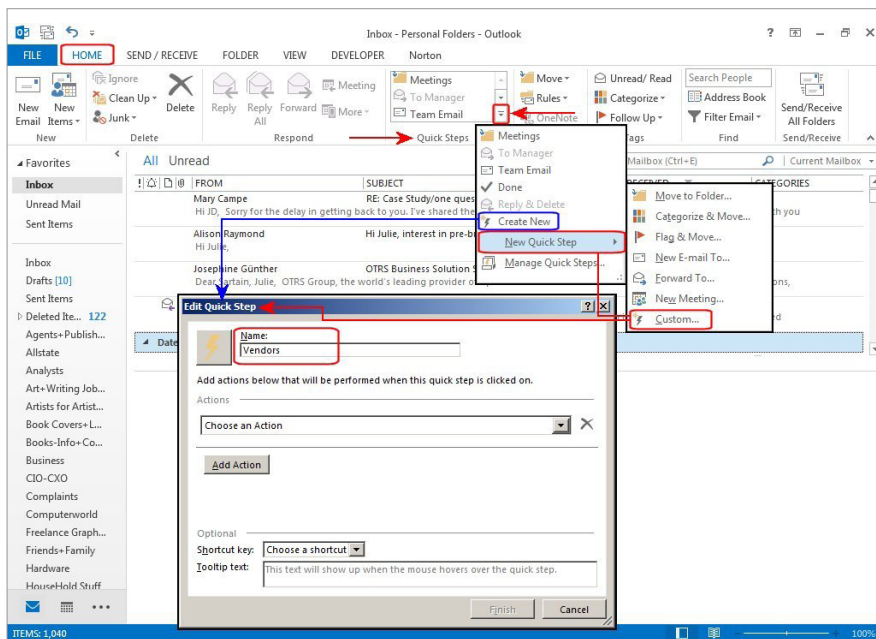
Use Outlook Quick Steps to automate email tasks, like moving emails from a specific project into a folder.

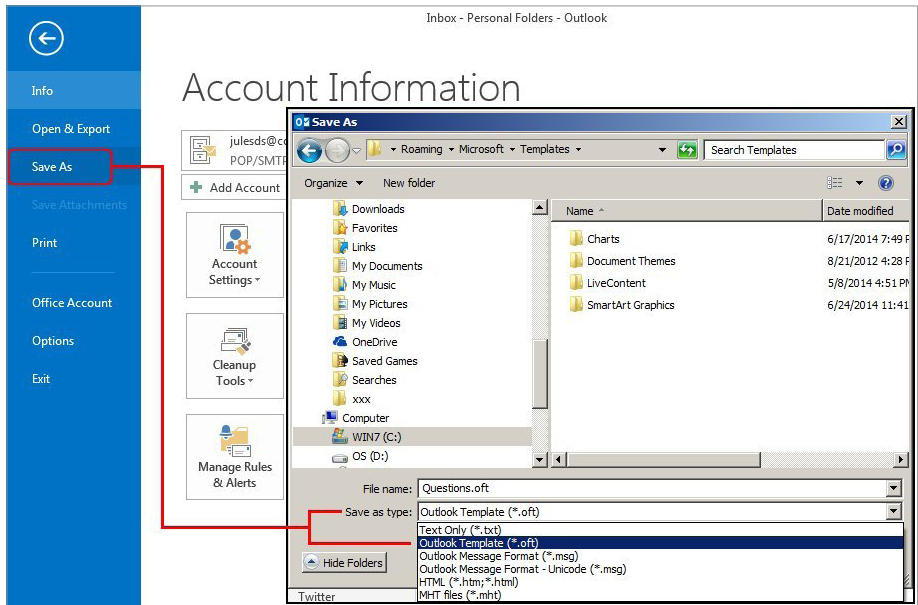
2. Next, click Choose An Action, click the down-arrow, and select one from the Move to Folder drop-down list. Another field appears under your Move to Folder action—Choose Folder. Select a target folder from the list. (Such as Vendors in the visual example below.)

3. You can stop here and just click *Finish*, or click the *Add Action* button and Choose Action again for a second automated task, such as Mark As Read. In the Optional pane, you can click the *Shortcut Key* field and select a key from the list (CTRL-SHIFT-1 thru CTRL-SHIFT-9). Then enter a tooltip in the Tooltip Text box. Click *Finish* and you're done.

4. To use this task—continuing with our Vendors example—click on an email sent by a vendor, and then click Vendors from the list. The email is marked as read and moved to your Vendors folder, all in one simple step. Alternatively, you can use the

Use Outlook Quick Steps
to automate email tasks, like moving emails from a specific project into a folder.





shortcut key you defined, but note that the keyboard shortcuts only work on the number keys above the letters. It does not recognize the numbers on the numeric keypad.

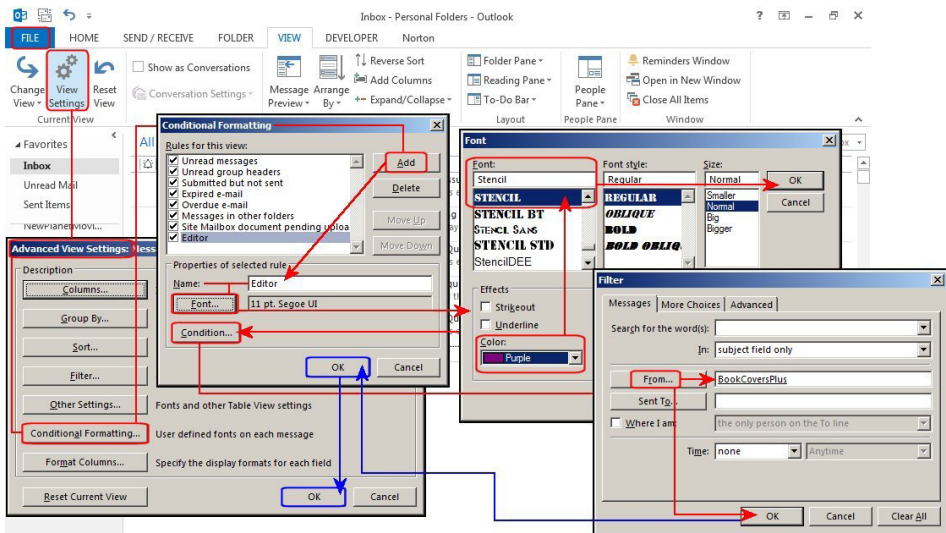
Email templates

How often have you sent the exact same email to dozens (or more) people with nothing changed except the recipient's name and email address? Email templates make this task a snap.

1. Locate one of these form letter-type emails in your Sent folder. Forward it to yourself and edit out all the custom information such as the recipient's name, email address, company, etc. Then click *File > Save As*, enter a filename, and select Outlook Template as the file format.

2. To use/open the template: From the File tab's New group, choose *New Items > More Items > Choose Form*,

Create an Outlook template for emails you send repeatedly.



and then click the down-arrow to view the list of forms. Select *User Templates* in file system, then choose your saved email template from the list and click *Open*. Add a custom salutation, insert an email address, and simply click *Send*.

Conditional-formatting rules

This handy feature lets you create rules for conditional formatting. Wait, what?

Basically, it's just a few customized attributes that you can automatically add to incoming emails to make them stand out. For example, you can change the font attributes—underline, bold, italic (bold and italic are font styles of specific typefaces)—and the colors based on a rule (or condition) that you define in the Conditional Formatting section of Advanced View Settings.


1. From the File tab's Current View group, choose *View Settings*. Click the *Conditional Formatting* button then, in the Conditional Formatting dialog box, click the *Add* button and enter a descriptive

Conditional formatting helps you distinguish specific kinds of emails from the rest of the pile with special fonts or colors.

name for what this rule/condition does. I entered “Editor” in the example shown above because I want the emails from my editor to really stand out and grab my attention. (Woohoo!—Ed.)

2. Click the *Font* button to define the format for the typeface; i.e., font name, color, and attribute such as Underline or Strikeout (for bold and italic, choose a font that offers these attributes as part of the typeface). Click *OK* when you’re done.

3. Next, click the *Condition* button and define a condition; for example, you can choose a specific word (or words) in the email or subject line, an email address From or To, where your email address appears in the email (To, From, CC, etc.), and/or a general time or date (today, yesterday, last week, last month, etc.). Again click *OK* when you’re done.

4. When the dialog box closes, click *OK* yet again in the Conditional Formatting dialog box, then click *OK* again in the Advanced View Settings dialog box. Now, whenever I receive an email from my editor at BookCoversPlus, all those emails will display on my screen in a purple, STENCIL font. 

Customized attributes
can make specific
incoming emails stand
out from the rest.



Make your own portable hard drive from an old PC drive

BY MARCO CHIAPPETTA

WHAT TO DO WITH the old hard drive you just removed from your laptop or desktop? You could just keep it around as a spare—but installing it into an external enclosure and effectively transforming it into a portable hard drive would be far more useful. You'll be able to access all of the files on the drive at a moment's notice, but you could also use it for backups (go.pcworld.com/diybackup) or simply transferring data between systems.

Enclosure types

There are a slew of external enclosures available for hard drives, and pretty much all of them are dirt-cheap—less than \$10, in some instances, with the most feature-filled models topping out around \$40. You'll find everything from simple aluminum sleeves to larger multi-drive docks that

can connect to a variety of different ports. USB enclosures are by far the most common, but eSATA, Thunderbolt, and Firewire enclosures are available too.

External drive enclosures are fairly simply devices. For example, they can take a standard 2.5-inch SATA drive and bridge the SATA interface to USB, or another interface of your choosing. Some enclosures are sealed and turn your formerly internal drive into a portable storage device, while others function as more of a dock, where drives may be connected at will.

External enclosures are not just for hard drives, either. An old SSD would be a perfect candidate for a high-speed external drive—especially since it probably cost a pretty penny. The USB interface found in most enclosures may not be able to exploit all of the performance benefits of an SSD, but an SSD in an external enclosure equipped with a USB 3.0 port will still shift files around at a speedy rate.

Prep work

There are a few things to consider before installing your drive into an external enclosure. If the drive is encrypted, for example, you may want to reconnect it to the original system to access it and back up any important data on the drive. Even if the drive is not encrypted, it's probably a good idea to back everything up (go.pcworld.com/backitup) beforehand.



Enclosures that can turn any 2.5-inch hard disk or solid-state-drive into an external USB drive are affordable and widely available.

Most external drive enclosures include a rigid shell and a small circuit board.



On very rare occasions, compatibility issues may prevent you from accessing a drive installed into an external enclosure without reformatting it (go.pcworld.com/reformat). Most of the external enclosures available today, however, feature mature technology and are fairly reliable. Regardless, it couldn't hurt to back things up—just in case.

The assembly process


Installing a drive into an external enclosure is usually very easy. For the purposes of this article, I picked up a Kingwin ATK-25U3-BK USB 3.0 enclosure on NewEgg for about \$27, but the assembly process should be similar for all hard drive enclosures.

The Kingwin ATK-25U3-BK includes all of the cables necessary to connect it to a PC. Installing a drive into the enclosure required only one tool—a small Phillips-head screwdriver. I had to remove four small screws from each corner of the enclosure and slide out a small circuit board (the section with the connectors attached).

The circuit board features a bridge that converts the SATA interface to USB 3.0. There's also a thin, transparent protective shield that protects the bottom of the drive being installed, which is where a 2.5-inch hard drive's controller board is typically exposed. The drive slides right onto the small circuit board; simply line up the male/female SATA data and power connectors and push them together.

Once the drive is connected to the converter board, the whole assembly slides into the enclosure. Tighten the screws that hold the enclosure together, and it's ready to go.

To use your new external drive, all you have to do is plug it into an available USB port on your PC. Some enclosures will include two USB cables—one for data and the other for supplemental power. If the enclosure you choose requires two cables, connect them both to ensure reliable operation. Many drives will work with just the single data cable attached, because it can provide some power. Under load, however, a single USB port may not be able to provide enough juice, and the drive could drop from the system.

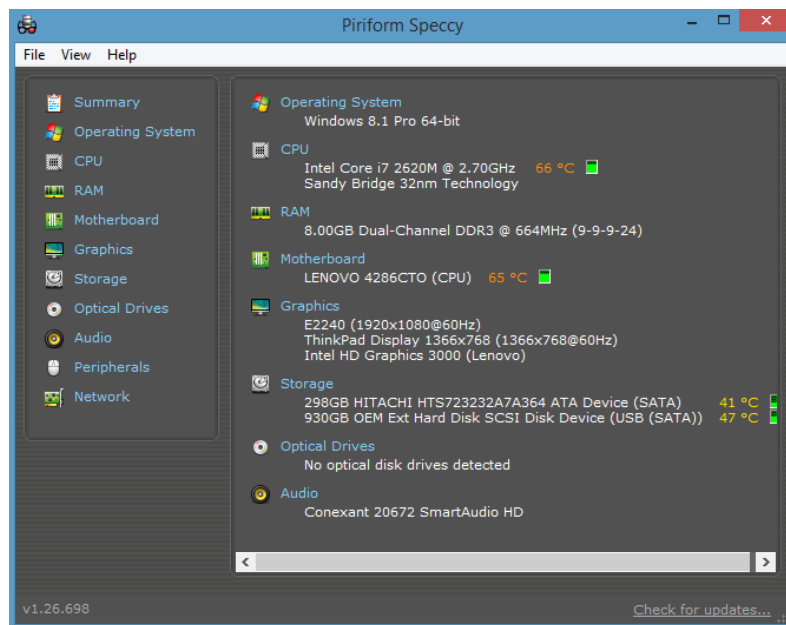
You needn't retire or recycle old hard drives. Put it into an external drive enclosure, and you can keep the data with you or use the drive as portable storage. In the throwaway culture of high tech, this solution's a keeper. 



After stationing your hard drive in the enclosure, all you've got left to do is plug it into an available USB port on your PC. Easy!



Three free tools that reveal your PC's deepest details



Speccy
running on
Windows 8.1.

WHEN YOU NEED TO KNOW your specs to figure out if you can play a video game (go.pcworld.com/game), it's best to just automate the process. But sometimes you need to dive deep and really find out nitty-gritty details about what's going on inside your computer, most often to aid with troubleshooting efforts or determine whether or not it's time to upgrade your hardware.

Maybe you want to check how much RAM your PC has. Maybe you want to know how fast your processor is, or the voltages being supplied to your PC components. Perhaps you've lost a software product key or

are trying to figure out exactly which driver your printer is using. Some—but not all—of that info you can just grab from Windows itself, but it's spread across different locations and a pain to navigate to.

A better option is to try out a number of third-party apps that can analyze your system and supply all the information you need. Here's a look at three free, easy-to-use programs that deliver just that kind of information—and then some.

Speccy

Of all three apps, Speccy is by far the nicest to look at. It's also very simple and straightforward to use. After you fire up the app, you'll see a summary of your machine stats that includes your operating system type, CPU, RAM, motherboard, graphics card, storage devices (including connected external drives), optical drives, audio hardware, attached peripherals, and network connection.

On the left side is a navigation panel where you can drill down into the finer details about your system.

One nice thing to take note of is that the summary includes the reported temperature of various PC components such as the CPU, motherboard, and hard drives.

You can grab Speccy on FileHippo (go.pcworld.com/speccy).

Belarc Advisor

This app scans your system and creates a detailed report that you can view in your web browser. Similar to Speccy, it will give you information on all your hardware configuration, but also provides very detailed information on your software, local network, and attached peripherals—including, crucially, product keys for purchased software such as Microsoft Office and even your Windows key.

If you've misplaced your product key from an email, knowing that Belarc can retrieve it for you is a great back-up.

Belarc can also tell you where each program is installed and how recently you've used it.


You can get Belarc Advisor here (go.pcworld.com/belarc2).

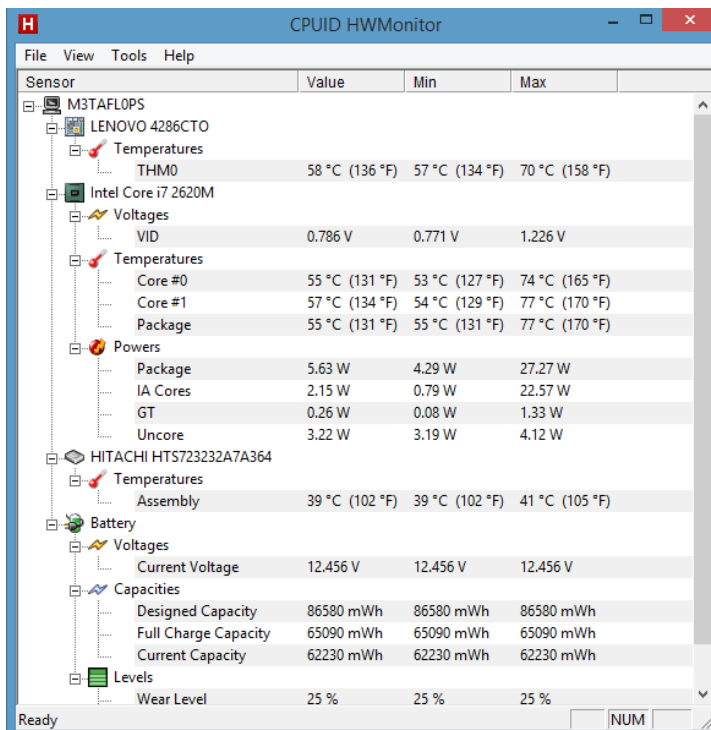
HWMonitor

HWMonitor from CPUID looks like something out of Windows Explorer circa Windows 98. That said, it's even simpler to look at than Speccy, but it doesn't offer the same features. Instead, this app supplies live information reported by sensors such as voltages, the internal temperature of your PC's components, and battery capacities.

Some hard-core users question the usefulness of HWMonitor's reported voltages, but if you're looking for something to keep an eye on your system's internal temperatures, HWMonitor is a great choice.

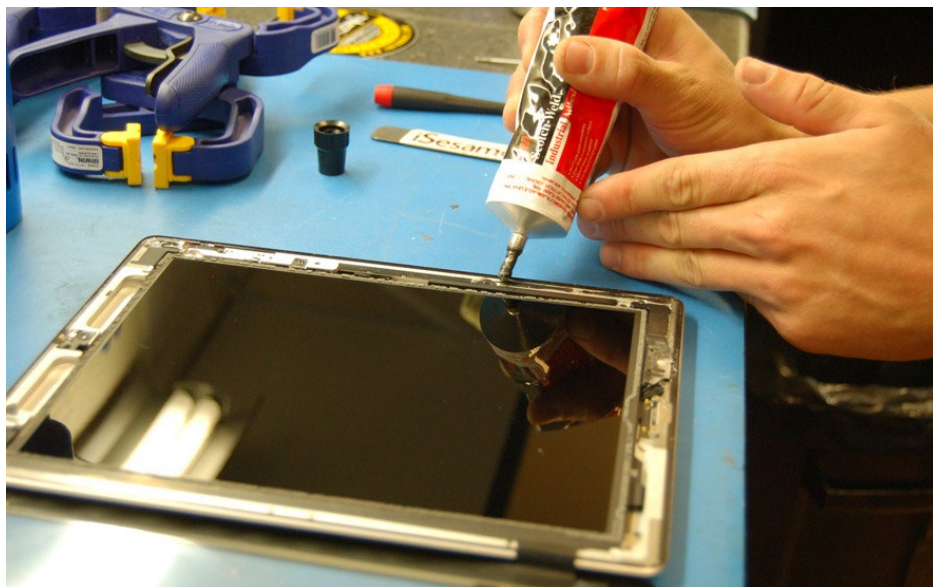
Download HWMonitor from CPUID (go.pcworld.com/hwm).

Don't be afraid to try these out! All three programs are easy to use and require no more knowledge than the ability to install and launch a program in Windows. 



Sensor	Value	Min	Max
M3TAFLOPS			
LENOVO 4286CTO			
Temperatures			
THM0	58 °C (136 °F)	57 °C (134 °F)	70 °C (158 °F)
Intel Core i7 2620M			
Voltages			
VID	0.786 V	0.771 V	1.226 V
Temperatures			
Core #0	55 °C (131 °F)	53 °C (127 °F)	74 °C (165 °F)
Core #1	57 °C (134 °F)	54 °C (129 °F)	77 °C (170 °F)
Package	55 °C (131 °F)	55 °C (131 °F)	77 °C (170 °F)
Powers			
Package	5.63 W	4.29 W	27.27 W
IA Cores	2.15 W	0.79 W	22.57 W
GT	0.26 W	0.08 W	1.33 W
Uncore	3.22 W	3.19 W	4.12 W
HITACHI HTS723232A7A364			
Temperatures			
Assembly	39 °C (102 °F)	39 °C (102 °F)	41 °C (105 °F)
Battery			
Voltages			
Current Voltage	12.456 V	12.456 V	12.456 V
Capacities			
Designed Capacity	86580 mWh	86580 mWh	86580 mWh
Full Charge Capacity	65090 mWh	65090 mWh	65090 mWh
Current Capacity	62230 mWh	62230 mWh	62230 mWh
Levels			
Wear Level	25 %	25 %	25 %

HWMonitor supplies live information reported by your PC.



Prepare your PC for a trip to the shop

Peggie Oliver needs to send her computer out for repairs. She wants to know what she should do with it first.

Your computer contains important information, much of it private. The people who will repair it may need to alter Windows, which generally requires access to your password-protected administrator account. They're probably honest, but you can't count on that. And even if they're honest, they may still wipe your hard drive out of necessity or incompetence.

But with the right precautions, taking your PC on a service trip shouldn't result in a disaster.

Put important files in the cloud: If you plan to work while the PC is in the shop, make sure that the files you need for your current

projects are in the folder for your Dropbox, OneDrive, or other cloud-based storage account. That way, the files will be easily accessible on another computer. And any changes you make to those files on that other computer will be automatically synced to your real PC when you get it back.

Backup: Next, create an image backup of your hard drive or SSD. That way, if the professionals wipe your hard drive and reinstall Windows from scratch, you can restore all of your data files. And if they really mess things up, you can restore Windows to the way you had it set up before you sent it to them.

But be warned: If they had a good reason for reinstalling, restoring everything from the image backup could restore the problem that caused the necessity for repair in the first place. Check with the repair people to see if they think this is a good idea.

I recommend you use EaseUS Todo Backup Free (go.pcworld.com/todo) and an external hard drive for the backup.


Protect sensitive files: You probably have files that you don't want people to see. These include bank and credit card statements, tax forms, or anything that might embarrass you.

You should either encrypt these files (go.pcworld.com/encryption) or remove them securely. ([go.pcworld.com/wiped]) You do, after all, have them backed up.)

Make your PC accessible: The repair people will probably need to boot your PC. Rather than giving them the password on a piece of paper, disable Windows' logon password (go.pcworld.com/disable).

Don't assume they know the problem: Yes, you told them what was wrong on the phone, but that doesn't mean the message got to the right people. Write a detailed description of your problem.

Save the file in the Start menu's Startup folder, which you can do by entering the path `%appdata%\microsoft\windows\start menu\programs\startup\` into the File Name field. That way, the file will load automatically when you boot.

Then print the file and tape the hard copy to your computer. 
Send your questions to answer@pcworld.com.

Tech Spotlight

A video showcase of
the latest trends



Watch the
video at
[go.pcworld.com/
msbandvid](http://go.pcworld.com/msbandvid).



Microsoft Band: An ambitious fitness tracker

» Microsoft packs so many features into its new fitness band—text messages, emails, Twitter, a heart-rate tracker,—

that it's practically a smartwatch. But an uncomfortable fit and dubious heart-rate data raise questions. Editor in Chief Jon Phillips straps one on his wrist and shares what he does and doesn't like about it.